SEMI-ANNUAL PROGRESS REPORT NUMBER 19

(Operating Period July 1 through December 31, 2004)

Prepared For:

Non-City Remedial Design/Remedial Action Settlors
Wayne Reclamation & Recycling, Inc., Wayne Waste Oil Site
Columbia City, Indiana

Prepared By:

MWH Americas, Inc. 41551 Eleven Mile Road Novi, Michigan 48375

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EPA Region 5 Records Ctr.



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ACRONYMS AND ABBREVIATIONS

AST Aboveground Storage Tank
B&N Burgess & Niple, Incorporated
CLP Contract Laboratory Program

1,2-DCE 1,2-dichloroethene gpd gallons per day gallons per minute

HDPE high-density polyethylene

IDEM Indiana Department of Environmental Management

InSite InSite, Incorporated

ISC-LT Industrial Source Complex – Long-Term

lb. pound

MWH MWH Americas, Inc.

NFG National Functional Guidelines
O&M operation and maintenance

OM&M operation, maintenance, and monitoring

Pace Pace Analytical Services, Inc.
PCB polychlorinated biphenyl

PCE tetrachloroethene

POTW publicly owned treatment works

ppb parts per billion

PRG Preliminary Remediation Goal
OAPiP Quality Assurance Project Plan

QC quality control

RD/RA Remedial Design/Remedial Action scfm standard cubic feet per minute

SE Southeast

SVE soil vapor extraction

U.S. EPA United States Environmental Protection Agency

TCE trichloroethene

μg/kg micrograms per kilogram
 μg/L micrograms per liter
 v/v volume per volume basis
 VOC volatile organic compound

VC vinyl chloride Weston Roy F. Weston

WRR Wayne Reclamation & Recycling

1.0 INTRODUCTION

This document is submitted on behalf of the Non-City Remedial Design/Remedial Action (RD/RA) Settlors. It is intended to summarize operations of the remediation system constructed by the Non-City RD/RA Settlors at the Wayne Reclamation & Recycling (WRR) Site (also known as the Wayne Waste Oil Site) located in Columbia City, Indiana for the reporting period of July 1 through December 31, 2004. Included in this document is a description of the system operation, assessment, and testing activities that have occurred during the reporting period, as well as the on-going evaluation of the remediation system performance. This document is organized as follows:

- Section 2 Monitoring, Data Validation, and Field Work
- Section 3 Soil Vapor Extraction System
- Section 4 Air Sparging System
- Section 5 Groundwater Extraction System
- Section 6 Groundwater Pre-Treatment System
- Section 7 Off-Gas Treatment System
- Section 8 Conclusions and Recommendations

This document is intended to supplement information presented in previous Semi-Annual Progress Reports.

1.1 BACKGROUND

Construction of the remediation system at the WRR Site took place between 1994 and January 1995. The remediation system was constructed to remove volatile organic compounds (VOCs) from soil and groundwater. The system includes:

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• A 150-gallons-per-minute (gpm) design capacity groundwater extraction system, including a 1,600-foot-long, soil-bentonite cut-off wall (i.e., slurry wall).

- A groundwater treatment system consisting of an influent storage tank, an air stripping tower, and a 5,800-foot-long force main that delivers treated groundwater to the Columbia City publicly owned treatment works (POTW).
- A 2,400-standard-cubic-feet-per-minute (scfm) soil vapor extraction (SVE) system and a 100-scfm air sparging system (nominal rates).
- A 3,200-scfm off-gas treatment system, which was removed from service effective June 24, 1999.

A layout for the three primary components of the remediation system, including the groundwater recovery, SVE, and air sparging systems, are indicated on Figures 1, 2, and 3, respectively.

A Prefinal Inspection of the remediation system was held with the United States Environmental Protection Agency (U.S. EPA) on January 27, 1995. The Final Inspection with the U.S. EPA was conducted on May 18, 1995. The system was operated in startup/shakedown mode from January 1995 through September 1995, pending approval of the *Final Operation, Maintenance, and Monitoring Plan (Final OM&M Plan*; Montgomery Watson, September 1995). U.S. EPA approval of the *Final OM&M Plan* was granted on September 27, 1995. In addition, U.S. EPA approval of the *Interim Remedial Action Report* (Montgomery Watson, August 1995) was granted on September 29, 1995.

Roy F. Weston (Weston) of Vernon Hills, Illinois (remediation system general contractor) acted as system operator after the completion of system construction activities, from September 1995 to January 31, 1998. Weston subcontracted the majority of the OM&M activities to InSite, Incorporated (InSite) of Fort Wayne, Indiana. Montgomery Watson (system designer) was responsible for collecting air and water samples in accordance with the approved *Final OM&M Plan* during Weston's operation of the system. From February 1, 1998 until March 31, 2004, Montgomery Watson replaced Weston as the system operator and retained InSite to perform the day-to-day system operation. As of April 1, 2004, InSite was contracted directly by the Non-City RD/RA Settlors to operate, maintain, and monitor the WRR Site remediation system. MWH Americas, Inc. (MWH; formerly Montgomery Watson and Montgomery Watson Harza) continues to assist with the monitoring and optimization of system performance.

Additional information on the remediation system can be found in the following reports:

- Final Design Evaluation (Warzyn, November 19, 1993).
- Interim Remedial Action Report (Montgomery Watson, August 1995).
- Final Operation, Maintenance, and Monitoring (OM&M) Plan (Montgomery Watson, September 1995) and Addendum (Montgomery Watson, July 1999).
- Final Operations and Maintenance Quality Assurance Project Plan (O&M QAPjP) (Montgomery Watson, September 1995) and Addendum (Montgomery Watson, July 1999).
- Technical Memorandum Number One (Montgomery Watson, February 12, 1996).
- Technical Memorandum Number Two (Montgomery Watson, November 1996).
- Semi-Annual Progress Report Number 3 (Montgomery Watson, August 1997).

- Semi-Annual Progress Report Number 4 (Montgomery Watson, November 1997).
- Semi-Annual Progress Report Number 5 (Montgomery Watson, April 1998).
- Semi-Annual Progress Report Number 6 (Montgomery Watson, September 1998).
- Semi-Annual Progress Report Number 7 (Montgomery Watson, March 1999).
- Semi-Annual Progress Report Number 8 (Montgomery Watson, August 1999).
- Semi-Annual Progress Report Number 9 (Montgomery Watson, March 2000).
- Semi-Annual Progress Report Number 10 (Montgomery Watson, October 2000).
- Semi-Annual Progress Report Number 11 (Montgomery Watson, March 2001).
- Semi-Annual Progress Report Number 12 (Montgomery Watson Harza, September 2001).
- Semi-Annual Progress Report Number 13 (MWH, April 2002).
- Semi-Annual Progress Report Number 14 (MWH, September 2002).
- Semi-Annual Progress Report Number 15 (MWH, July 2003).
- Hydrological Assessment Letter Report, January through July 2003 (MWH, August 2003).
- Semi-Annual Progress Report Number 16 (MWH, September 2003).
- Hydrological Assessment Letter Report, July through December 2003 (MWH, January 2004).
- Semi-Annual Progress Report Number 17 (MWH, March 2004).
- Semi-Annual Progress Report Number 18 (MWH, September 2004).

2.0 MONITORING, DATA VALIDATION, AND FIELD WORK

Initial monitoring and optimization testing of the WRR Site remediation system commenced in early 1995, during the startup/shakedown mode of system operations. Additional monitoring and system optimization has continued through the second half of 2004. Monitoring and testing was conducted primarily to evaluate the performance of the remediation system in removing VOCs from soils and groundwater, as well as to address the monitoring and testing requirements set forth in the *Final OM&M Plan*. The hydrological assessment activities were continued at the WRR Site during this reporting period. Summaries of the monitoring activities conducted, data validation report, and significant field events and activities are presented in the following sections.

2.1 SITE-SPECIFIC PRELIMINARY REMEDIATION GOALS

Development of the groundwater and soil site-specific Preliminary Remediation Goals (PRGs) are detailed in Appendix C of the *Final OM&M Plan* (Montgomery Watson, September 1995) and *Final O&M QAPjP* (Montgomery Watson, September 1995). Soil PRGs are specified based on the thickness of soil column and area. Soil compliance monitoring will begin when it is determined that an area likely meets the soil site-specific PRGs, as indicated by groundwater detections less than the groundwater site-specific PRGs. The five constituents listed below were noted in the *Final OM&M Plan* to be the principal contaminants of concern necessitating groundwater and soil remediation at the WRR Site.

The most conservative groundwater PRGs and soil PRGs for the entire soil column for the principal contaminants of concern are provided in the following table.

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	Groundwater PRG (μg/L)	Soil PRG for Entire Soil Column (1) (µg/kg)			
Principal Contaminant of Concern		SE Area - North	SE Area - South	AST Area	MW-7S
Vinyl chloride (VC)	0.0283	37.1	25.2	2.6	1,987.0
Tetrachloroethene (PCE)	1.43	67.1	1,811.6	44.2	4,796.0
Trichloroethene (TCE)	2.54	19.7	804.6	17.6	664
cis-1,2-Dichloroethene (cis-1,2-DCE)	70				
trans-1,2-Dichloroethene (trans-1,2-DCE)	100				;
1,2-Dichloroethene, Total (1,2-DCE)		186.3	8,578.4	184.7	4,219.0

Notes:

μg/L = Micrograms per liter.

μg/kg = Micrograms per kilogram.

SE = Southeast.

AST = Aboveground Storage Tank.

-- = No PRG developed for this constituent.

2.2 MONITORING

The primary monitoring activities conducted for the WRR Site remediation system include:

- The SVE system effluent (equivalent to the former air treatment system influent) samples are collected and analyzed for VOCs on a monthly basis. Laboratory analytical results of the SVE effluent sampling are used in air dispersion calculations as part of the on-going assessment of cumulative risks for exposure to carcinogens.
- Samples of both the influent to and effluent from the groundwater treatment system are collected monthly and analyzed for VOCs. The effluent samples are also analyzed for total metals, inorganics, and polychlorinated biphenyls (PCBs) during the expanded sampling event

^{(1) =} PRGs were also developed for a one-foot soil column. The appropriate PRG should be used.

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in October of each year. Laboratory analytical results from the groundwater treatment system sampling are used to monitor groundwater treatment system efficiency, and to provide effluent water quality information to the Columbia City POTW.

- Groundwater samples from recovery wells are collected and analyzed on a periodic basis. In an agreement with the U.S. EPA and Indiana Department of Environmental Management (IDEM) on October 31, 2003, recovery wells RW-1, RW-3, RW-4, and RW-5 are to be sampled for VOCs annually for three years, during or near the time of the October sampling event. Laboratory analytical results from recovery well sampling are used to monitor changes in aquifer groundwater concentrations and to assess VOC mass removal rates from the aquifer.
- Semi-annual groundwater sampling and analyses are conducted using the WRR Site monitoring well network. Laboratory analytical results from groundwater sampling are used to assess effectiveness of the remediation system operations and evaluate the progress toward attainment of remedial goals. During October, samples were collected from 14 WRR Site monitoring wells and analyzed for VOCs and metals.
- Semi-annual groundwater elevation measurements are collected from 28 of the WRR Site's groundwater monitoring wells and piezometers, not including the landfill wells monitored by Columbia City and the WRR Site recovery wells. These data are used to evaluate groundwater flow patterns across the site. During October,

groundwater elevation readings were collected from the designated monitoring wells and piezometers.

- Monthly groundwater elevation measurements are collected from eight groundwater monitoring wells to evaluate the zone of hydraulic influence created by the groundwater remediation system and to assess horizontal and vertical hydraulic gradients within the SE Area.
- A monthly assessment of hydrologic conditions in the areas of wells RW-3, RW-5, MW-13S, and MW-83DS is currently being conducted in 2003 and 2004, as described in the *Final Hydrological Assessment Work Plan* (MWH, November 2002), and is designed to evaluate the effect of the recovery wells on groundwater flow. It includes monthly measurement of groundwater elevations from designated wells and piezometers (beyond those that are part of the usual monthly elevation determinations) and Blue River surface water elevations. Data from 2003 was summarized in the *Hydrological Assessment Letter Report, January through July 2003* (MWH, August 2003) and the *Hydrological Assessment Letter Report, July through December 2003* (MWH, January 2004). Data for January through June 2004 was summarized in the *Semi-Annual Progress Report Number 18* (MWH, September 2004). Data for July through December 2004 is included in this report.
- Annually, specific Columbia City municipal drinking water wells (Municipal Well Numbers 7 and 8, referred to as PW-7 and PW-8, respectively) are sampled. PW-7 and PW-8 were sampled in October for VOCs and metals.

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 During this reporting period, groundwater wells located on or adjacent to the landfill (GM-1 through GM-4) were sampled by Burgess & Niple, Incorporated (B&N) of Columbus, Ohio. Their report (Appendix A) provides useful data for comparison to groundwater monitoring results from closely associated wells on the WRR Site.

The results from the above monitoring activities are discussed in the following sections of this report.

2.3 DATA VALIDATION SUMMARY

Groundwater, air, and associated quality control (QC) samples were collected from the WRR Site between July and December 2004. The water samples were analyzed by Pace Analytical Services, Inc. (Pace), Indianapolis, Indiana for one or more of the following parameters: VOCs by U.S. EPA Method SW846 8260; total cyanide by U.S. EPA Method 335.3; and dissolved (filtered in the field) metals (arsenic, barium, cadmium, chromium, lead, nickel, and zinc) by U.S. EPA Method 6010B. Air samples were analyzed for VOCs by Pace of Minneapolis, Minnesota via U.S. EPA Method TO-14. Laboratory analytical results were evaluated in accordance with the U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Data Review (October 1999), the U.S. EPA CLP NFG for Inorganic Data Review (July 2002), and the analytical methods.

The analytical data were validated and qualified based on the results of the data evaluation parameters and/or the QC sample results provided by the laboratories. The complete data validation report is included as Appendix B. The analytical data that did not meet the QC criteria are flagged by a "J" or "UB" as estimated for those compounds. Based on the results of this data validation, all data are considered valid and complete as qualified.

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2.4 FIELD WORK

The major field activities conducted at the WRR Site during the reporting period are summarized in Appendix C. Activities during this reporting period included various equipment repairs and maintenance tasks.

3.0 SOIL VAPOR EXTRACTION SYSTEM

3.1 SYSTEM DESCRIPTION

The SVE system was constructed to remove VOCs from the vadose (unsaturated) zone. The horizontal configuration of the SVE well system is presented on Figure 2. The system consists of 41 SVE wells in the SE Area and 18 SVE wells in AST Area. In the SE Area of the WRR Site, the SVE wells are grouped together into one of six branch lines, with six to eight SVE wells attached to each line. As shown on Figure 2, the six branch lines are designated as Branches A, B, C, D, E, and F. The six branch lines connect to one main trunk line that conveys extracted vapors to the on-site treatment building via vacuum blowers housed within the building. Operation of groups of SVE wells is currently controlled manually by a valve at the head of each branch line. In the AST Area, each SVE well is connected via underground piping to one of two branch lines (Branches G and H; Figure 2) that convey extracted vapors to the treatment building. Automatic control valves located in the treatment building control operation of the two AST Area branches. Additionally, the operation of individual SVE wells can be controlled manually by a shut-off valve located at each well.

In the SE and AST Areas, cycling of the SVE branch lines began on May 1, 1998. The cycling applies vacuum to certain branch lines while others are dormant. After a specified period of time, the dormant lines are placed under vacuum while those that were active are turned off. During current cycling procedures, effective as of September 17, 2001, two of the six branch lines are operated simultaneously in the SE Area. The set of two branch lines operating is rotated approximately once per week. In the AST Area, operations of Branch Lines G and H were rotated approximately once per week. In the beginning of October 2002, the operation of Branch H was suspended, and Branch G is now run continuously.

3.2 MONITORING RESULTS

Results of the SVE system monitoring conducted during this reporting period indicate:

- During the period of July through December 2004, the SVE system
 was operational for approximately 96 percent of the time (i.e., percent
 of total hours available). Downtime events were related to standard,
 regularly scheduled OM&M activities and special maintenance and
 repairs.
- Area air flow rates were collected each month from July through December 2004. The SE Area flow rate averaged approximately 880 scfm (total average of six branch line measurements made in SE Area) and the AST Area flow rate averaged approximately 348 scfm (Branch Line G). Flow rate measurements collected during this reporting period are summarized in Table 1.
- Laboratory analytical data from Summa canister samples collected in October 2004, as well as historical data, are summarized in Table 2.
 Vapor samples are collected with and without air delivery to the sparge wells as a means of measuring the contribution of the air sparge system to VOC removal.

3.3 PROGRESS TOWARD REMEDIAL OBJECTIVES

The primary objective of the SVE system operation is to remove VOCs from soil in order to attain vadose zone soil site-specific PRGs, as indicated in the *Final OM&M Plan* and *Final O&M QAPjP*. Soil compliance monitoring will begin when it is determined that an area likely meets the soil site-specific PRGs, as indicated by groundwater detections less than the groundwater site-specific PRGs.

Based on laboratory analytical results from SVE system effluent air samples collected during the reporting period, it is estimated that approximately 11,664 pounds (lbs.) of VOCs have been removed via the SVE system from vadose zone soils to date, with 55 lbs. removed from July through December 2004. The main VOC constituents being removed in the SE and AST Areas are TCE and cis-1,2-DCE. Initial mass removal rates observed at the commencement of SVE system operations were approximately 83 lbs. of total VOCs per day. As of December 2004, removal rates for the SVE system were approximately 0.37 lbs. of total VOCs per day, approximately 0.4 percent of initial removal rates. The trend in VOC concentrations for the combined effluent air of the SVE, air sparge, and groundwater treatment systems is stable and is shown on Figure 4. A similar trend can be observed in the Summa canister results shown on Figure 5. Groundwater monitoring results are presented in Table 3 and briefly described below.

For the wells that were monitored in October 2004 within the SE Area:

- VOCs are non-detect in MW-1D (as well as MW-13D and MW-83DD, which were last sampled in 2002 and 2001, respectively).
- VC was detected but less than the PRG, and generally decreasing, in MW-83AD.
- Two or more VOCs (generally including cis-1,2-DCE, trans-1,2-DCE, TCE, and VC) were greater than PRGs, with a decreasing trend at MW-3S (as of October 2003, when it was last sampled) and MW-13S; with fluctuating concentrations at MW-10S, and MW-83AS (with concentrations that have begun to level off after a decreasing trend).
- Two or more VOCs (including cis-1,2-DCE and VC) were greater than PRGs in MW-11S (with varying trends, but a decrease in concentrations in October 2004) and MW-83DS (with a steady trend).

For the wells that were monitored in October 2004 within the AST Area:

- Generally, VOCs were less than site-specific PRGs in MW-14S and MW-18S (last sampled in 2001 with a slight exceedence of VC).
- TCE was greater than the PRG with no apparent trend, but no detectable concentration of VC but some detections of DCE isomers, in MW-15S.
- cis-1,2-DCE and VC were greater than the PRGs with no apparent trend, in MW-16S.
- Five VOCs (including cis-1,2-DCE, VC, TCE, and PCE) were greater than PRGs, with no apparent trends, in MW-9S.

Operation of SVE system should continue, as constituents in groundwater are still present at concentrations greater than the site-specific PRGs.

4.0 AIR SPARGING SYSTEM

4.1 SYSTEM DESCRIPTION

The air sparging system was constructed to facilitate removal of VOCs from soils and groundwater. The air sparging system is intended to work in combination with the SVE and groundwater collection systems to remove VOCs from the subsurface. The system consists of 40 sparge well clusters located in the SE Area of the WRR Site (Figure 3). A sparge well cluster is positioned adjacent to each SVE well. Compressed air is delivered from the treatment building to each sparge well through 2-inch diameter subgrade high-density polyethylene (HDPE) piping. As shown on Figure 3, Branch Lines A, B, C, D, E, and F leave the trunk line to feed the sparge wells. Operation of each branch line is controlled by a valve at the junction of the line with the primary air flow pipe.

Each sparge well cluster consists of one shallow and one deep well. The shallow/deep cluster was installed to provide treatment of soils above and below a thin olay layer located approximately 20 to 25 feet below the ground surface. The screen interval for each shallow sparge well is positioned immediately above the thin clay layer. The deep sparge wells are screened at the base of the upper aquifer. Each well is instrumented with an air flow rotometer, ball valve, and pressure gauge.

Effective September 17, 2001, delivery of compressed air to the deep sparge wells was discontinued. It is believed that the deep area is experiencing anaerobic degradation of VOC impacts; therefore, discontinuing the deep air sparging may increase VOC degradation.

Currently, two of the six sparge branch lines are operated at a time, corresponding to the two operating SVE branch lines. The lines are rotated approximately once per week, consistent with the rotation of the SVE lines, with two lines undergoing sparging while

four lines are dormant. During operation, air is delivered to the sparging system for four hours, followed by a four-hour period of inoperation.

4.2 MONITORING RESULTS

Results of the air sparging system monitoring conducted during this reporting period indicate:

- During the period of July through December 2004, the air sparging system was operational for approximately 96 percent of the total hours available. Downtime events were primarily related to standard, regularly scheduled OM&M activities and special maintenance and repairs.
- As a means of measuring the contribution of VOC removal by air sparging, vapor samples have been collected from the effluent of the SVE system both with and without air delivery to the sparge wells.
 Vapor samples were collected using Summa canisters during the October semi-annual sampling event. The results associated with this sampling effort are summarized in Table 2.
- Operation of the sparge system will continue without air sparging to the deep wells, to enable additional data to be gathered regarding anaerobic VOC degradation.

4.3 PROGRESS TOWARD REMEDIAL OBJECTIVES

The primary remedial objective of the air sparging system is the removal of dissolved-phase VOCs from the saturated zone in the SE Area of the WRR Site, located within the confines of the slurry wall. VOC analytical results for the air samples collected semi-annually via Summa canisters are presented in Table 2, and semi-annual

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groundwater sampling results are presented in Table 3. Testing results collected to date

suggest that the air sparging system is supporting the remedial objective, as discussed

below.

A historical representation of the concentration of total VOCs in the SE Area, as recorded

during vapor sampling, is provided in Figure 5. The graph depicts the effect of the air

sparge system on VOC removal in this area. Review of the laboratory analytical results

indicate that the air sparge system's impact on VOC removal in the SE Area has varied

throughout system operations, but that the air sparge system continues to enhance VOC

removal. The overall trend for the concentration of VOCs removed is becoming stable.

For the wells that monitor the SE Area, the groundwater data is briefly summarized under

Section 3.3.

Based on the information to date, operation of air sparging will continue until

groundwater site-specific PRGs, developed for common VOCs detected at the WRR Site,

have been attained.

5.0 GROUNDWATER EXTRACTION SYSTEM

5.1 SYSTEM DESCRIPTION

The groundwater extraction system was constructed to capture and control groundwater impacted with VOCs. The groundwater extraction system consists of ten groundwater recovery wells installed in three areas of the WRR Site as follows: three recovery wells in the AST Area (RW-1 through RW-3), one recovery well in the monitoring well MW-7S area (RW-4), and six recovery wells in the SE Area (RW-5 through RW-10) (Figure 1). The extraction system also employs the use of a soil-bentonite cut-off wall (i.e., slurry wall), constructed to reduce the pumping rate necessary to control groundwater flow in the SE Area. Extracted groundwater is pumped to the on-site treatment building through underground HDPE piping.

Four piezometers (PZ-1 through PZ-4) were installed in December 2002 to assist in evaluating the effect of the recovery wells on groundwater flow. Gauge points (G-1 through G-4) are located in the Blue River near piezometers PZ-1, PZ-2, PZ-3, and PZ-4, to measure the river surface water elevation. These piezometer and gauge point locations are shown on Figure 1.

5.2 MONITORING RESULTS

Results of the groundwater extraction system monitoring conducted during this reporting period indicate:

 During the period of July through December 2004, the groundwater extraction system was operational for approximately 96 percent of the time (i.e., percent of total hours available). Primary downtime events were related to routine cleaning of recovery pumps, routine and annual plant maintenance, draining and cleaning of the knockout tank,

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cleaning and repair of the flow meters, flushing of the line leading to the POTW, and other special maintenance and repairs.

- A summary of system flow rates is included in Table 4. The maximum sustained groundwater recovery rate during the reporting period was approximately 76 gpm in July 2004. During the reporting period, a total of 16,839,020 gallons of groundwater were recovered and treated. The largest total monthly flow was reported at 3,406,978 gallons, for the month of July 2004. The highest average daily recovery rate during the reporting period was 109,903 gallons per day (gpd), which was also reported during the month of July 2004. Figure 6 is a comparison of cumulative versus the average daily groundwater recovery rates. As of December 2004, a cumulative total of 229,255,541 gallons of groundwater had been recovered, treated, and discharged to the Columbia City POTW.
- Average groundwater extraction rates had begun to decrease, starting in mid-October until early November (Table 4). The groundwater treatment system flow to the Columbia City POTW was averaging less than 50,000 gpd, as opposed to being closer to 100,000 gpd, which is normal. The force main was cleaned out in November 2004 by filling it with water and forcing air into it at high pressure to blow out the solids that were clogging it. The procedure was successful, and the groundwater treatment system flow to the POTW has increased significantly since the cleaning was completed.
- Temporary flow meters were installed in October 2003 at RW-3 and RW-5 to assist in the hydrological assessment. During this reporting

period, the average flow rate recorded at RW-3 ranged from 23 to 28 gpm, and the average flow rate at RW-5 ranged from 9 to 20 gpm.

- On-going, routine operation and maintenance activities are focusing on recovery well pump cleaning and/or repair, and recovery pipe cleaning as necessary to optimize groundwater extraction system performance.
- Water level elevation data collected during the reporting period is used to evaluate the groundwater table drawdown. These data are provided in Table 6 (monitoring well construction details are included in Table 5). Groundwater contour maps are presented as Figures 8-1 through 8-4, 8-6, and 8-7. Figure 8-4 illustrates a representation of the groundwater elevations observed across the entire WRR Site during October 2004, and the apparent horizontal groundwater flow patterns. Comparison of the October groundwater elevations illustrated in Figure 8-4 with the October groundwater elevations of the landfill wells in the B&N report (see Table 2 of the B&N report, included as Appendix A) shows that they correspond very well.
- Water level elevation data collected during the reporting period also demonstrates that the groundwater extraction system has maintained inward and upward hydraulic gradients in the SE Area.
- Figure 8-5 summarizes recent groundwater sampling analytical results from monitoring wells, recovery wells, and the treatment system influent.
- Based on January 2003 through December 2004 data, the groundwater extraction system is generally maintaining an inward gradient from the

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Blue River to the WRR Site. The hydrological assessment results

conducted during this reporting period are discussed in detail in

Section 5.3.

Historical laboratory analytical results from the annual sampling of the

Columbia City municipal drinking water wells located to the north of

the WRR Site can be found in Tables 7 and 8. The recent and

historical data indicates that no detectable concentrations of

constituents attributable to the WRR Site have been identified in

samples from the municipal wells.

5.3 HYDROLOGICAL ASSESSMENT

An assessment of hydrologic conditions is being conducted in the following areas:

Recovery well RW-3 near the AST Area

Monitoring wells MW-13S and MW-83DS in the SE Area

• Recovery well RW-5 southeast of the landfill.

Figure 9 illustrates the WRR Site layout and location of monitoring and recovery wells,

piezometers, and river gauge points used for the July through December 2004 assessment

activities, as well as the locations of the cross-sections described below. Table 9 provides

the July through December 2004 Blue River surface water levels, riverbed elevations, and

the groundwater elevations in monitoring wells, recovery wells, and piezometers, as

applicable, in the vicinity of each assessment area. Descriptions of the assessment

activities conducted in each area are provided below.

AST Area - RW-3 Area

Figures 10-1 through 10-6 are plots of the groundwater elevations in the

RW-3/MW-9S/PZ-1 assessment area (cross-section A-A'). During October, November,

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and December 2004, water table elevations generally slope from the Blue River toward

recovery well RW-3, with none or a very small hydraulic discontinuity between the

two points. In July, August, and September, a hydraulic mound (localized accumulation

of groundwater that is slightly higher in elevation than the local water table) appears in

the vicinity of monitoring well MW-9S and piezometer PZ-1. However, groundwater in

the vicinity of MW-9S was still controlled by RW-3. The hydraulic mounds may have

been associated with periodic dry conditions, during which flow in the Blue River was

decreased, and/or changes in the pumping rate at RW-3. These assumptions are

supported by the return to the more common groundwater table configuration of generally

sloping from the Blue River toward RW-3 each of the three months after hydraulic

mounding was noted from July through September.

SE Area - MW-13S Area and MW-83DS Area

Figures 11-1 through 11-6 are plots of the groundwater elevations in the PZ-2/MW-13S

assessment area (cross-section B-B'). These data reveal a consistent trend of

groundwater flow from the Blue River toward piezometer PZ-2.

Figures 12-1 through 12-6 are plots of the groundwater in the MW-83DS/PZ-3

assessment area (cross-section C-C'). Water level elevations in piezometer PZ-3 were

consistently below those measured on the Blue River, again illustrating a consistent trend

of groundwater flow inward toward the WWR Site from the Blue River.

Southeast of Landfill - RW-5 Area

Figures 13-1 through 13-6 are plots of the groundwater elevations in the

GM-4/RW-5/PZ-4/GM-3 assessment area (cross-section D-D'). Consistent with the

patterns seen in the other three assessment areas, the water table elevations sloped from

the Blue River toward RW-5, without exception.

5.4 PROGRESS TOWARD REMEDIAL OBJECTIVES

The primary remedial objectives of the groundwater extraction system are to remove dissolved-phase contamination from the upper aquifer on site, thereby restricting the potential off-site migration of dissolved-phase constituents to the Blue River or Columbia City municipal well field. Mass removal rates from the groundwater extraction system have ranged from approximately 0.8 to 2.1 lbs. of total VOCs removed per day during this reporting period.

Groundwater elevation data indicates that the slurry wall/groundwater extraction system is effectively maintaining an inward horizontal gradient in the SE Area. Monthly water elevations collected during the reporting period indicate the hydraulic head levels are consistently lower inside the slurry wall as compared to the head levels outside the wall. For example, the July 2004 elevations within the confines of the slurry wall are more than 2.8 feet lower than water elevations immediately outside the slurry wall (compare monitoring wells MW-11S and MW-13S in Table 6 and Figure 8-1).

OM&M activities, including on-going recovery pump and groundwater collection pipe cleaning, are conducted to increase groundwater system recovery rates to maintain an upward gradient in the SE Area. Based on the historical observations of groundwater extraction system performance, maintenance of the groundwater extraction system will be conducted frequently (i.e., approximately once per quarter) in order to maintain hydraulic control. Review of the groundwater elevation data indicates that an upward gradient was maintained in the SE Area during this reporting period.

The monitoring wells currently included in the semi-annual or annual sampling program, per the requirements of the *Final OM&M Plan*, are MW-1D, MW-3S, MW-4S, MW-7S, MW-9S, MW-10S, MW-11S, MW-14S, MW-15S, MW-16S, MW-83AS, MW-83AD, and MW-83B. Monitoring wells MW-13S and MW-83DS were added to the annual

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OM&M monitoring program per the July 11, 2002 Site Progress Meeting. During the

reporting period, monitoring wells MW-1D, MW-4S, MW-7S, MW-9S, MW-10S, MW-

11S, MW-13S, MW-14S, MW-15S, MW-16S, MW-83AS, MW-83AD, MW-83DS, and

MW-83B were sampled. Additionally, MW-3S was scheduled to be sampled, but due to

dry conditions at the WWR Site, there was inadequate groundwater volume in this well.

A summary of monitoring well VOC and metals analytical data collected to date is

included in Table 3. Recent monitoring well VOC analytical results are also included in

Figure 8-5. Copies of laboratory analytical reports are available upon request. Results

for the monitoring wells in the SE and AST Areas are discussed in Section 3.3 and 4.3, as

part of the assessment of the SVE and air sparge systems. For the remaining wells, for

which the remedy is only groundwater treatment, the results are summarized below:

Recovery Well RW-4 Area:

• cis-1,2-DCE is greater than the PRG, with a slight increasing trend, in

MW-7S.

TCE and VC are greater than the PRGs, with no apparent trends, in

MW-4S.

cis-1,2-DCE is greater than the PRG, with a slight increasing trend at

RW-4.

Recovery Wells in AST Area:

• VOCs (mainly cis-1,2-DCE, TCE, and VC) are greater than the PRGs,

but have started to stabilize at RW-1 and RW-3.

- VOCs in the monitoring wells in this area (mainly cis-1,2-DCE, TCE, PCE, and VC at MW-9S; TCE at MW-15S; and cis-1,2-DCE at MW-16S) are also greater than the PRGs and reflect a similar stabilized trend with minor fluctuations. Concentrations of cis-1,2-DCE and TCE at MW-9S decreased by an order of magnitude to levels similar to those observed in 2002 and 2003.
- No VOCs were greater than PRGs at MW-14S, but TCE and VC have occasionally exceeded the PRGs.

Recovery Wells in Southeast Area

- cis-1,2-DCE, TCE, and VC were greater than the PRGs at wells RW-6 through RW-10, which were last sampled in 2001. There is no clear trend related to these results.
- cis-1,2-DCE, TCE, and VC were greater than PRGs at RW-5, but the trend appears to be stable with no significant increase or decrease.
- Based on the summaries in Sections 3.3 and 4.3, the concentrations of VOCs at the monitoring wells, in general, appear to reflect the stabilized constituent concentrations being observed at RW-5.

A summary of historic recovery well VOC analytical data is included in Table 10 (recovery well construction details are included as Table 11), with the most recent analytical data for each recovery well included on Figure 8-5. The most highly impacted groundwater is removed from recovery wells located within the confines of the slurry wall (RW-8, RW-9, and RW-10).

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Review of the July through December 2004 cross-sections show that the Blue River

surface elevation is higher than the groundwater in adjacent wells/piezometers, with the

exceptions of July, August, and September in the vicinity of the RW-3/MW-9S/PZ-1

assessment area (Figures 10-1 through 10-3). The data indicate that, in general, the

groundwater extraction system is maintaining an inward gradient from the river to the

WRR Site.

The force main that leads to the Columbia City wastewater treatment plant was cleaned in

November 2004, following a significant decrease in flow, and since that time it has

become possible to increase extraction rates in the recovery wells. The increased

extraction rates will further enhance the inward gradient to the WRR Site.

6.0 GROUNDWATER PRE-TREATMENT SYSTEM

6.1 SYSTEM DESCRIPTION

The groundwater pre-treatment system is designed to remove VOCs from extracted groundwater, prior to discharge to the Columbia City POTW. Groundwater extracted from the WRR Site's ten groundwater recovery wells is initially pumped to an influent storage tank for solids settling and equalization. The equalized water is transferred through a bag filter to the top of an air stripping tower via electric transfer pumps. Water cascades downward through the tower packing, while air flows upward from near the tower base, inducing liquid to gas mass transfer of VOCs from the groundwater. The treated water drains from the tower into an effluent sump, which is pumped via a dedicated force main to the Columbia City POTW.

6.2 MONITORING RESULTS

During the period of July through December 2004, the groundwater pretreatment system was operational 96 percent of the time (i.e., percent of total hours of available). Primary downtime events were related to on-going routine cleaning activities and maintenance, and special maintenance and repairs.

Monthly analytical results of groundwater influent and treated effluent are summarized in Tables 12 and 13 and Figure 7. The air stripping tower has consistently removed VOCs prior to discharge to the Columbia City POTW. Total VOC concentrations in air stripping tower influent have fluctuated from as low as 416 μg/L to as high as 3,274 μg/L (in December 1995 and February 1996, respectively), since commencement of treatment system operations. Influent groundwater VOC concentrations can vary over time, based on a variety of factors including recovery well cycling, rainfall events, and water levels. The influent groundwater total VOC concentrations during this reporting period began at 2,439.3 μg/L in July 2004 and ended at 1,691.3 μg/L in December 2004 (shown in

Table 12 and summarized on Figures 7 and 8-5). The average total VOC concentration removed during the reporting period was approximately 1,803 μg/L. Average groundwater contaminant mass removal rates since the commencement of remediation system operations have ranged from approximately 0.13 to 13.2 lbs. per day of total VOCs. For this reporting period, the average groundwater contaminant mass removal rate is 1.40 lbs. of total VOCs per day, based on an average flow rate of 91,560 gpd and a average total VOC concentration removed of 1,803 μg/L. The mass removal rates for specific VOCs are provided in Table 16.

6.3 PROGRESS TOWARD REMEDIAL OBJECTIVES

Laboratory analytical results of the groundwater treatment system monthly effluent sampling, conducted in accordance with the discharge agreement (i.e., the agreement in place prior to February 1, 1998) with the Columbia City POTW, are included in Tables 12 and 13. Analytical results have indicated that low levels of both VOCs and inorganic compounds are present in the treated groundwater discharged to the Columbia City POTW. Monthly groundwater treatment system sampling consists of influent and effluent sampling for VOCs. Additional non-VOC parameters are analyzed in samples collected during the annual sampling event conducted in October of each year (Table 13).

7.0 OFF-GAS TREATMENT SYSTEM

7.1 SYSTEM DESCRIPTION

The off-gas treatment system was constructed and operated to remove VOCs from the off-gases of the air stripping tower and the SVE system prior to discharge to the atmosphere. On June 24, 1999, air treatment was discontinued; however, monthly air sampling continues to be conducted on the effluent air stream as a means of monitoring potential risk levels associated with the untreated air stream.

Upon entering the treatment building, the combined air stream of the air stripping tower and the SVE system is drawn through an air filter and moisture separator by two blowers connected in parallel. After exiting the blowers, the air stream passes through a heat exchanger prior to discharge to the atmosphere.

7.2 MONITORING RESULTS

Monitoring conducted to date, including the monthly SVE system effluent sampling (which includes air stripping system off-gases), indicate:

Monthly effluent vapor concentrations have decreased by more than one order of magnitude from the beginning of system operations in early 1995 to December 2004. Total VOCs in the air stream have dropped from approximately 83,300 parts per billion (ppb) on a volume per volume basis (v/v) in March 1995 to 2,921 ppb (v/v) in December 2004. During the same time period, VC concentrations have decreased from approximately 1,900 ppb (v/v) to non-detect (less than the reporting limit of 140 ppb [v/v]), TCE concentrations have 28,000 780 ppb (v/v), decreased from to and cis-1,2-DCE concentrations have decreased from approximately 40,000 to 1,300 ppb (v/v). The historic monthly air treatment system influent and effluent laboratory analytical results are summarized on Table 14 and on Figure 4. Table 14 also includes the monthly effluent-only sample results collected since the air treatment system was discontinued on June 24, 1999.

• Calculations have been conducted using the VOC concentrations of off-gas vapor concentrations to assess hypothetical risk levels. Results of the effluent sample analyses indicate hypothetical risk levels to be less than the cumulative risk action level of 1x10⁻⁶ (representing a risk of one in one million exposed) during this reporting period. Current and historical air risk calculations are provided in Table 15.

7.3 PROGRESS TOWARD REMEDIAL OBJECTIVES

The primary objective of the continued on-going off-gas air monitoring is to ensure that the cumulative life-time cancer risk at the WRR Site boundary remains less than the cumulative risk action level of 1x10⁶. To verify compliance with this objective, air dispersion calculations were completed to determine the maximum concentrations at receptor locations outside the site boundary. The Industrial Source Complex - Long-Term (ISC-LT) model was used for the purpose of modeling the dispersion of the effluent from the soil remediation system (Appendix D). The maximum concentrations determined by the air modeling study were multiplied by unit risk factors to estimate the excess carcinogenic risk posed by the hypothetical emissions through the inhalation route. The unit risk factors used in this study were developed from toxicity values included in U.S. EPA's Integrated Risk Information System, U.S. EPA's Health Assessment Summary Tables (Annual FY-1995), and information provided by the U.S. EPA Environmental Criteria Assessment Office, The unit risk factors conservatively assume a chronic exposure to the chemicals for 24 hours a day, 365 days

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a year, for a 70-year lifetime. In this Progress Report, references to cancer risk and

cancer risk estimates refer to the estimated potential risks as indicated by the use of

ISC-LT air dispersion modeling and are not meant to represent or suggest actual risks.

Air dispersion calculations using the off-gas air data indicate that no exceedances of the

1x10⁻⁶ action level occurred during this reporting period. Though active air treatment was

discontinued on June 24, 1999, monthly effluent air sampling and risk calculations will

continue. Air treatment will be reactivated should the results from two consecutive

monthly air samples indicate cumulative risks in excess of 1x10⁻⁶.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Overall remediation system mass removal calculations indicate that, since inception of treatment system operations, approximately 13,694 lbs. of total VOCs have been removed by the SVE and groundwater treatment systems. Of this, approximately 85 percent (or 11,664 lbs.) is attributed to operation of the SVE and air sparge systems, and approximately 15 percent (or approximately 2,030 lbs.) is attributed to the groundwater extraction system. Additionally, initial contaminant mass removal rates from the entire remediation system were approximately 88 lbs. of total VOCs per day during the startup phase of system operations. This removal rate has decreased to approximately 1.77 lbs. of total VOCs per day, as of this reporting period. Figure 14 represents a summary of overall VOC removal rates. Figure 15 represents a summary of total VOCs removed from the WRR Site. Table 16 provides the removal rates for specific VOCs for the SVE, air stripper portion of the groundwater treatment systems, taking into account the average air flow rates and water flow rates collected during this reporting period.

The following recommendations, unless otherwise indicated by the U.S. EPA, will be implemented to improve treatment system performance:

- Continue with the on-going standard OM&M of the remediation system components to continue progress toward achieving the remedial action objectives.
- Continue monthly groundwater treatment system influent and effluent sampling for VOCs, per the discharge agreement with the Columbia City POTW.
- Continue with the on-going recovery well cleaning, pump repair

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and/or replacement, and groundwater recovery pipe cleaning as needed

to optimize groundwater recovery efficiency and maintain effective

hydraulic control. Also, perform annual cleaning of the discharge line

to the POTW.

• Continue cycling SE Area SVE system branch lines. Continue system

operation schedule, such that two of the SE Area's six SVE system

branch lines are operated simultaneously (two lines on, four lines off),

with cycling of operation occurring approximately every week.

Continue to sample the off-gas vapor stream to evaluate the potential

cumulative excess cancer risks associated with the untreated vapor

stream. Should the vapor stream continue to exhibit a cumulative

excess cancer risk less than the 1x10⁻⁶ action level, the off-gas

treatment system will remain off-line. Should two consecutive

monthly SVE effluent vapor samples indicate a cumulative excess

cancer risk of greater than $1x10^6$, the air treatment system will be

restarted.

• Continue air sparging system operation cycling procedures such that

two of the SE Area's six air sparging system branch lines are operated

at one time (two lines on, four lines off), in conjunction with the

corresponding SVE lines. Cycle the operation approximately every

week. Continue operation of the shallow air sparging wells only.

The hydrological assessment was conducted in 2003 and voluntarily

continued in 2004. Data has shown relatively consistent inward

gradients from the Blue River into the site. There has been minor

hydraulic mounding (localized accumulation of groundwater that is

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slightly higher in elevation than the local water table) occurring in the

spring, summer, or fall months in some areas, most frequently near

MW-9S. However, overall groundwater flow still appears to be

influenced by the recovery wells, drawing it into the site. The

hydraulic mounds may have been associated with periodic dry

conditions, during which flow in the Blue River was decreased, and/or

changes in the pumping rates at the recovery wells. These

assumptions are supported by the return to more common groundwater

table configuration that generally slopes from the Blue River toward

the recovery wells in the months following a hydraulic mounding.

Based on the current understanding of the hydraulic trends in the four

areas of interest along the Blue River, the hydrological assessment is

considered complete and further data collection will not be performed.

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TABLES

Table 1
Summary of Soil Vapor Extraction Air Flow Rates from the SE and AST Areas,
July through December 2004
Wayne Reclamation & Recycling

	AIR FLOW	/ (scfm)
DATE TESTED	SOUTHEAST AREA	AST AREA
7/30/2004	860	250
8/31/2004	700	325
9/22/2004	730	400
10/19/2004	900	470
11/22/2004	1,200	340
12/17/2004	890	300
AVERAGE FLOW:	880	348
MAXIMUM FLOW:	1,200	470
MINIMUM FLOW:	700	250

AST = Aboveground Storage Tank.

Flow measurement reported in standard cubic feet per minute (scfm).

All flow measurements are approximate.

Vacuum and flow measurements at the individual soil vapor extraction wells were suspended as of October 2002.

The operation of Branch Line H in the AST Area was suspended in October 2002.

Table 2
Summary of Summa Canister Sampling for Soil Vapor Extraction Lines
Wayne Reclamation & Recycling

						SOUTHEA	ST AREA					
						BRANCE	ies a - f					
CONSTITUENT	AS-ON	AS-ON	AS-ON	AS-ON	AS-ON	AS-OFF	AS-ON	AS-OFF	AS-ON	AS-OFF	AS-ON	AS-OFF
(ppb[v/v])	1/9/1 996	2/15/1996	2/16/1996	<u>2/18/1996</u>	11/25/1996	11/27/1996	<u>9/3/1997</u>	9/5/1997	11/18/1997	11/21/1997	4/21/1998 *	4/28/1998
Tetrachloroethene	670	470	470	470	450	370	370	370	240	220	56	100
Trichloroethene	9,100	8,600	7,200	7,100	4,000	3,000	2,800	2,800	3,800	3,500	330	540
cis-1,2-Dichloroethene	9,600	6,800	6,600	6,400	5,300	3,700	2,900	3,000	4,400	4,300	830	1,000
trans-1,2-Dichloroethene	850	460	540	480	490	340	370	380	460	460	71	74
Vinyl Chloride	<84	<72	240	230	61	<34	130	200	89	56	85	<12
1,1,1-Trichloroethane	1,300	810	770	700	520	340	280	290	270	290	47	51
1,1-Dichloroethane	230	230	300	180	120	81	88	82	98	92	20	19
Xylenes, Total	<84	<72	<72	<72	<36	<34	<17	<34	<36	<30	23	14
4-Ethyltoluene	<84	<72	<72	<72	<36	<34	<17	<34	<36	<30	<12	<12
1,3,5-Trimethylbenzene	<84	<72	<72	<72	<36	<34	<17	<34	<36	<30	<12	<12
1,2,4-Trimethylbenzene	<84	<72	<72	<72	<36	<34	<17	<34	<36	<30	13	<12

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

AS = Air sparging system (on or off).

^{*} As of May 1, 1998, began to cycle operation of soil vapor extraction branches.

Bold = Analyte detected greater than the laboratory reporting limit.

< = Not detected greater than the reporting limit provided.

Table 2
Summary of Summa Canister Sampling for Soil Vapor Extraction Lines
Wayne Reclamation & Recycling

	<u> </u>				-		SOUTHEA							
CONSTITUENT (ppb[v/v])	AS-ON 10/14/1998	AS-OFF 10/16/1998	AS-ON 4/26/1999	AS-OFF 4/13/1999	AS-ON 12/14/1999	AS-OFF 12/21/1999	AS-ON 4/18/2000	AS-OFF 4/29/2000	AS-ON 10/6/2000	AS-OFF 10/10/2000	AS-ON 4/27/2001	AS-OFF 4/23/2001	AS-ON 9/29/2001 *	AS-OFF
Tetrachloroethene	450	270	53	5	54	58	52	79	52	95	20	<140	<140	<130
Trichloroethene	2,500	2,900	250	94	650	540	400	710	920	750	150	140	280	410
cis-1,2-Dichloroethene	3,300	3,500	410	210	1,500	1,300	580	1,400	2,200	1,300	270	150	680	1,500
rans-1,2-Dichloroethene	280	360	40	22	180	160	59	130	160	130	NA	NA	NA NA	NA
Vinyl Chloride	<25	<25	12	15	180	29	12	<13	130	<8.2	60	<140	<140	<260
1,1,1-Trichloroethane	280	190	90	6	100	87	56	74	93	75	29	<140	<140	<130
1,1-Dichloroethane	70	73	14	5	47	38	17	29	49	32	<6.9	<140	<140	<130
Xylenes, Total	<25	<25	29	5	<9.7	<7.8	<6.7	<13	<18	<8.2	<5.7	<140	<280	<260
4-Ethyltoluene	<25	<25	7	<2	<9.7	<7.8	<6.7	<13	<18	<8.2	NA	NA	NA	NA
1,3,5-Trimethylbenzene	<25	<25	<2	<2	<9.7	<7.8	<6.7	<13	<18	<8.2	<6.9	<140	<140	<130
1,2,4-Trimethylbenzene	<25	<25	14	2	<9.7	<7.8	<6.7	<13	<18	<8.2	<6.9	<140	<140	<130

Results are reported in parts per billion on a volume per volume basis (ppb(v/v)) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

AS = Air sparging system (on or off).

Bold = Analyte detected greater than the laboratory reporting limit.

< = Not detected greater than the reporting limit provided.

NA = Not analyzed.

Table 2 Summary of Summa Canister Sampling for Soil Vapor Extraction Lines Wayne Reclamation & Recycling

					SOUTHEA	AST AREA					
					BRANCI	HES A - F					
AS-ON	AS-OFF	AS-ON	AS-OFF	AS-ON	AS-OFF	AS-ON	AS-OFF	AS-ON	AS-OFF	AS-ON	AS-OFF
4/23/2002	4/26/2002	10/23/2002	10/28/2002	4/15/2003	4/21/2003	10/15/2003	10/18/2003	4/19/2004	4/23/2004	10/14/2004	10/19/2004
47	42	<140	<130	<130	<130	<150	<150	29	<140	<140	<150
300	330	720	430	<130	270	260	240	390	<140	180 (UB)	180 (UB)
510	370	1,300	790	190	470	390	340	790	160	330 (UB)	330 (UB)
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
61	18	<140	<130	<130	<130	<150	<150	30	<140	<140	<150
27	19	<140	<130	<130	<130	<150	<150	21	<140	<140	<150
14	10	<140	<130	<130	<130	<150	<150	<13	<140	<140	<150
<2.2	<1.1	<280	<270	<270	<270	<460	<450	30	<140	<140	<150
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<1.3	<0.64	<140	<130	<130	<130	<150	<150	<13	<140	<140	<150
<1.3	<0.64	<140	<130	<130	<130	<150	<150	<13	<140	<140	<150
	4/23/2002 47 300 510 NA 61 27 14 <2.2 NA <1.3	4/23/2002 4/26/2002 47 42 300 330 510 370 NA NA 61 18 27 19 14 10 <2.2 <1.1 NA NA <1.3 <0.64	4/23/2002 4/26/2002 10/23/2002 47 42 <140	4/23/2002 4/26/2002 10/23/2002 10/28/2002 47 42 <140	4/23/2002 4/26/2002 10/23/2002 10/28/2002 4/15/2003 47 42 <140	AS-ON AS-OFF AS-ON AS-OFF AS-ON AS-OFF 4/23/2002 4/26/2002 10/23/2002 10/28/2002 4/15/2003 4/21/2003 4/21/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4721/2003 4720 430 4130 4720 4720 4720 4720 4720 4720 4720 472	4/23/2002 4/26/2002 10/23/2002 10/28/2002 4/15/2003 4/21/2003 10/15/2003 47 42 <140	AS-ON AS-OFF AS-ON AS-ON AS-OFF AS-ON AS-ON AS-OFF AS-ON AS-ON AS-OFF AS-ON	AS-ON AS-OFF AS-ON AS-OFF AS-ON AS-OFF AS-ON AS-OFF AS-ON AI-23/2002	AS-ON AS-OFF AS-ON	AS-ON AS-OFF AS-ON AS-ON AS-OFF AS-ON AS-O

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

AS = Air sparging (on or off).

* As of September 15, 2001, began cycling of two soil vapor extraction branches with weekly rotation of branches.

Bold = Analyte detected greater than the laboratory reporting limit.

< = Not detected greater than the reporting limit provided.

October 2002 data was validated to Level IV; no flags were required for the data in this table collected on that date.

NA = Not analyzed.

April and October 2003 and April 2004 data was validated to Level II; no flags were required for the data in this table collected on those dates.

October 2004 data validated to Level II; (UB) = estimated value due to blank contamination.

Table 2
Summary of Summa Canister Sampling for Soil Vapor Extraction Lines
Wayne Reclamation & Recycling

				АВС	VEGROUND ST	ORAGE TANK A	REA			
CONSTITUENT					BRANCHE	S G and H ⁽¹⁾				
(ppb[v/v])	1/11/1996	11/25/1996	9/3/1997	11/18/1997	4/21/1998	10/16/1998	4/21/1999	11/22/1999	4/18/2000	10/2/2000
Tetrachloroethene	1,600	<22	460	67	21	6	2.8	<2.0	58	75
Trichloroethene	1,700	140	1,500	420	57	48	8.1	9	590	710
cis-1,2-Dichloroethene	1,800	660	820	310	110	50	21	24	330	300
trans-1,2-Dichloroethene	120	63	59	24	4.8	2.2	<2.0	<2.0	28	27
Vinyl Chloride	130	<22	<8.4	22	7	<2.0	2.3	3.6	<7.3	<6.1
1,1,1-Trichloroethane	790	2,700	180	65	3.4	2	<2.0	<2.0	55	61
1,1-Dichloroethane	39	270	11	6	<2	<2.0	<2.0	<2.0	9.1	10
Xylenes, Total	55	<22	25	46	57	<2.0	18	2.1	<7.3	31
4-Ethyltoluene	190	<22	10	3	16	<2.0	4	2.1	<7.3	<6.1
1,3,5-Trimethylbenzene	120	<22	20	4	6.3	<2.0	2.2	<2.0	<7.3	<6.1
1,2,4-Trimethylbenzene	230	<22	12	4	22	<2.0	7.5	2.8	<7.3	<6.1
Soil Vapor Extraction Wells:	41 - 55					11 - 43, 50, and 53 - 5	55	<u> </u>	I	ı

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

Bold = Analyte detected greater than the laboratory reporting limit.

⁽i) Branch H operations suspended as of the beginning of October 2003.

< = Not detected greater than the reporting limit provided.

Table 2
Summary of Summa Canister Sampling for Soil Vapor Extraction Lines
Wayne Reclamation & Recycling

				ABOVEGR	OUND STORAGE 1	ANK AREA			
CONSTITUENT	В	RANCHES G and H	(1)			BRANCH G (E	AST BRANCH)		
(ppb[v/v])	4/23/2001	11/2/2001	4/23/2002	10/23/2002	12/18/2002 *	4/17/2003	10/15/2003	4/19/2004	10/19/2004
Tetrachloroethene	15	71	6.6	<140	<140	<130	<150	23	26.8
Trichloroethene	57	150	22	180	440	280	260	360	350 (UB)
cis-1,2-Dichloroethene	21	130	27	<140	580	190	<150	160	170 (UB)
trans-1,2-Dichloroethene	NA	<0.57	NA	NA	NA	NA	NA	NA NA	NA
Vinyl Chloride	<0.74	2.5	0.92	<140	<140	<130	<150	<14	- 18.4 (UB)
1,1,1-Trichloroethane	9.9	33	3.6	<140	<140	<130	<150	<12	16.9
1,1-Dichloroethane	1.3	4.6	0.77	<140	<140	<130	<150	<13	5.7
Xylenes, Total	3.49	41	2.79	<290	<290	<270	<450	47	9.3
1-Ethyltoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	<0.71	<0.69	<0.69	<140	<140	<130	<150	<13	1.2
1,2,4-Trimethy!benzene	<0.71	<0.69	<0.69	<140	<140	<130	<150	<13	4.0
Soil Vapor Extraction Wells:	<u> </u>	41 - 43, 50,	and 53 - 55			<u> </u>	41 - 43, 50, and 53 - 58	3	

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

Bold = Analyte detected greater than the laboratory reporting limit.

(1) Branch H operations suspended as of the beginning of October 2003.

< = Not detected greater than the reporting limit provided.</p>

NA = Not analyzed.

October 2002 data was validated to Level IV; no flags were required for the data in this table collected on that date.

April and October 2003 and April 2004 data was validated to Level II; no flags were required for the data in this table collected on those dates.

October 2004 data validated to Level II; (UB) = estimated value due to blank contamination.

^{*} Additional sampling following the completion and connection of new Soil Vapor Extraction Wells 56, 57, and 58.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

					MONITORING	WELL MW-1D	(Southeast Area)					PRG
CONSTITUENT Date Samp	led 8/1988	6/7/1996	11/6/1996	6/12/1997	10/14/1998	10/13/1999	10/2/2000	10/31/2001	10/25/2002	10/15/2003	10/20/2004	(μg/L)
VOCs (µg/L)		·	- =-				·					
Acetone	ND	ND	NA	NA	NA	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	ND	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	ND	ND	NA	NA	NA	NA	NA	NA	NA	<12.5	<20.0	
Carbon Disulfide	ND	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane	ND	ND	NA	ND	ND	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	70
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	100
1,2-Dichloroethene, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	ND	NA	NA	NA	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	ND	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	'
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	2.54
1,2,4-Trimethylbenzene	ND	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs	ND	ND	ND	ND	ND_	ND	ND	ND	ND	ND	ND	
Metals (mg/L)												
Arsenic, Dissolved	0.0059	0.005	ND	ND	ND	ND	ND	ND	ND	< 0.100	<0.0100	
Barium, Dissolved	0.132	0.13	0.13	0.12	0.16	0.68	0.14	0.18	0.226	0.147	0.140	
Cadmium, Dissolved	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.030	<0.00500	
Chromium, Dissolved total	ND	ND	ND	ND	0.013	ND	ND	ND	ND	<0.040	0.0207	
Cyanide, Total	0.009	ND	ND	ND	ND	ND	ND	ND	ND	<0.005	<0.00500	
Lead, Dissolved	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.080	<0.00500	
Nickel, Dissolved	ND	ND	ND	0.051	ND	ND	ND	ND	0.012	0.013	0.0117	
Zinc, Dissolved	0.013	0.06	ND ND	0.025	0.031		ND ND	0.068	0.012	0.013	<0.0200	
Zilic, Dissolved	1 0.013	V.V0	ואט	U.U45	0.031	0.13	ואט	V.V00	U.U / Z	V.44V	<u>\0.0200</u>	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (μ g/L) Metals reported in milligrams per liter (μ g/L).

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those dates

-- = No PRG assigned.

NA = Not analyzed.

< = Not detected greater than the reporting limit provided.

Bold = Analyte detected greater than the laboratory reporting limit.

Italics = Reporting limit greater than the corresponding PRG.

ND = Not detected greater than the method detection limit.

Table 3

Monitoring Well Analytical Results

Wayne Reclamation & Recycling

						MONITORING	WELL MW-3S	(Southeast Area)					PRG
CONSTITUENT	Date Sampled	3/1988	8/1988	11/29/1995	8/27/1996	11/06/1996	6/13/1997	10/14/1998	10/13/1999	10/02/2000	10/31/2001	10/15/2003	(μg/L)
VOCs (µg/L)			· · · · · · · · · · · · · · · · · · ·										
Acetone		ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	<20.0	3,650
Bromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	
n-Butylbenzene		ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	<1.0	
2-Butanone (MEK)		ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	
Carbon Disulfide	ł	ND	2.3	NA	NA	NA	NA	NA	ND	ND	ND	<1.0	768
Chloroethane		ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	<5.0	
1,1-Dichloroethane		ND	23	ND	ND	1.5	ND	ND	ND	ND	ND	<1.0	973
1,1-Dichloroethene		ND		ND	ND		ND	ND	ND	ND	ND	<1.0	0.0167
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	
cis-1,2-Dichloroethene		NA	NA	NA		14 - A 1	ોચ્ચા -	21.54	F-2-13()				70
trans-1,2-Dichloroethene	ŀ	NA	NA	NA		92	45	54	33	38	42.6	22.2	100
1,2-Dichloroethene, Total	1		1.00	7. (* 1 .)		を養け	1.45.77	*	5-23				(170)
1,2-Dichloropropane		ND		ND	ND		ND	ND	ND	ND		<1.0	1.25
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	0.274
4-Methyl-2-pentanone (M	ИВК)	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	<12.5	487
1,1,1-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	200
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	0.314
Dibromomethane		ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	<1.0	
Tetrachloroethene	ĺ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	1.43
Trichloroethene		ND	1.1	ND	ND	ND	ND	ND	ND	ND		1.9	2.54
1,2,4-Trimethylbenzene		ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	<1.0	
Vinyl Chloride		3,21	186	3.7	440	76-3	÷.	i 1	\$4.5°	炭			0.0283
Benzene		ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	0.617
Ethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	700
Toluene	J	ND	3.4	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	1,000
Xylenes, Total		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	828
TOTAL VOCs		25,300.0	7,385.3	2,580	4,010	2,959.1	1,335	1,274	1,743	945	786	295.2	
Metals (mg/L)													
Arsenic, Dissolved		0.015	0.0234	0.005	ND	ND	ND	ND	0.011	ND	ND	<0.100	
Barium, Dissolved		0.306	0.32	0.08	0.04	ND	ND	0.048	0.28	0.032	0.041	<0.020	
Cadmium, Dissolved	l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.030	
Chromium, Dissolved total	al	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.040	
Cyanide, Total	l	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.005	
Lead, Dissolved	l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.080	
Nickel, Dissolved	J	ND	0.0151	ND	ND	ND	ND	ND	ND	0.013	ND	0.020	
Zinc, Dissolved	I	ND	0.0126	ND	ND	ND	ND	ND	0.27	ND	ND	<0.050	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total.

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

Metals reported in milligrams per liter (mg/L).

October 2003 data validated to Level II; no flags were required for the data in this table collected on that date.

This monitoring well was scheduled for sampling in October 2002 and October 2004, but due to dry conditions at the site, there was inadequate groundwater volume.

-- = No PRG assigned.

< = Not detected greater than the reporting limit provided.

Bold = Analyte detected greater than the laboratory reporting limit.

Italics = Reporting limit greater than the corresponding PRG.

NA = Not analyzed.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

								MON	ITORING '	<u>WELL MW-4</u>	S (Recover	ry Well RW	-4 Area)								PRG
CONSTITUENT Date Sampled	8/1988	7/23/1992	11/28/1995	8/27/1996	6/12/1997	11/18/1997	4/21/1998	10/15/1998	4/12/1999	10/13/1999	5/4/2000	10/2/2000	4/19/2001	10/31/2001	4/23/2002	10/23/2002	4/16/2003	10/15/2003	4/20/2004	10/19/2004	(µg/L)
VOCs (µg/L)																					ł
Acetone	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<20.0	<20.0	<20	<20	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	NA	<2.0	<2.0	
n-Butylbenzene	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	J
2-Butanone (MEK)	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<12.5	<20	<20	
Carbon Disulfide	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<20	<20	768
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<2.0 (J)	<2.0	
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	ND	ND	ND	4.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	68	<1.0	70
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	100
1,2-Dichloroethene, Total	ND	ND	ND	4.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	68	<1.0	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.25
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<12.5	<12.5	<20	<20	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.314
Dibromomethane	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	-
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.43
Trichloroethene	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0		<1.0	2.54
1,2,4-Trimethylbenzene	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	NA	NA	<u> </u>
Vinyl Chloride			ND	ND	ND	ND			:				·								0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	700
Toluene	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	828
TOTAL VOCs	2.7	1	ND	16.6	ND	ND	12	15	17	29	33	23	13	7.4	6.1	15.1	18.4	24.8	167	12	
Metals (mg/L)																					
Arsenic, Dissolved	NA	ND	0.006	ND	ND	ND	ND	ND	ND	0.0082	ND	0.0081	ND	ND	ND	ND	< 0.10	< 0.100	0.0201	0.0126	[
Barium, Dissolved	NA	0.159	0.13	0.11	0.67	0.28	0.48	0.3	0.49	0.58	0.79	1.1	1.1	0.26	0.26	0.35	0.219	0.230	0.228	0.194	
Cadmium, Dissolved	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.030	< 0.030	< 0.005	< 0.00100	_
Chromium, Dissolved total	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.040	< 0.040	< 0.005	< 0.0100	
Cyanide, Total	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.005	0.0071	<0.005	< 0.00500	
Lead, Dissolved	NA	ND	ND	0.0032	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16	ND	< 0.080	< 0.080	0.00597	< 0.00500	
Nickel, Dissolved	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	ND	< 0.010	< 0.010	< 0.010	< 0.0500	
Zinc, Dissolved	NA	0.035	0.02	ND	0.036	ND	ND	0.023	0.025	ND	ND	ND	0.022	ND	ND	0.056	< 0.050	< 0.050	0.0233	0.025	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total.

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV, and April 2003 and October 2003 data validated to Level II; no flags were required for the data in this table collected on those dates. April 2004 data validated to Level II; (J) = estimated.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

-- = No PRG assigned.

NA = Not analyzed.

< = Not detected greater than the reporting limit provided.

Bold = Analyte detected greater than the laboratory reporting limit.

Italics = Reporting limit greater than the corresponding PRG.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

Table 3

Monitoring Well Analytical Results

Wayne Reclamation & Recycling

					:	MON	ITORING WEL	L MW-7S (Reco	very Well RW-4	Area)					PRG
CONSTITUENT I	Date Sampled	3/1988	8/1988	11/29/1995	8/27/1996	11/6/1996	6/12/1997	10/15/1998	10/13/1999	10/2/2000	10/30/2001	10/23/2002	10/15/2003	10/19/2004	(μg/L)
VOCs (µg/L)		: :				···· —									_
Acetone		ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)		ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<20.0	
Carbon Disulfide		ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane		ND	23	7.4	10	7.4	5.1	ND	ND	ND	2.9	3.4	4.8	4.3	973
1,1-Dichloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene		NA	NA	ે ૧. જર્ફન શ્રીદે		主要說得	44 0 8	2,50	3 · ·	$(ab)_{P}(i,j)$		Torok	• •	12.	70
trans-1,2-Dichloroethen	ne	NA	NA	59	74	55	48	23	10	12	21.2	20.6	33.0	29	100
1,2-Dichloroethene, Tot	otal	EMAQD	7 x 11 (1)	16-41-50)	HANNER "	8. 64	10.05	รมฐา-	4.7	, \$ ¹	49.	45.0			(170)
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone ((MIBK)	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene		ND	ND			ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	2.54
1,2,4-Trimethylbenzene	e	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride		ND		ND	ND	ND	ND	ND		ND	ND	ND	<1.0	<1.0	0.0283
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs		2,600	1,924.3	1,169.6	1,156	862.4	693.1	110	112.1	132	211.1	261.0	381.8	363.3	
Metals (mg/L)				<u> </u>											-
Arsenic, Dissolved		0.005	0.003	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.100	0.0118	
Barium, Dissolved		0.286	0.191	0.17	0.12	0.16	0.16	0.2	0.77	0.22	0.17	0.202	0.135	0.125	
Cadmium, Dissolved		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.030	< 0.00100	
Chromium, Dissolved to	otal	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.040	< 0.0100	
Cyanide, Total		ND	0.016	0.095	ND	ND	ND	ND	ND	ND	ND	ND	0.0060	<0.00500	
Lead, Dissolved	•	ND	ND	ND	0.0099	ND	ND	ND	ND	ND	ND	ND	<0.080	<0.00500	
Nickel, Dissolved		ND	ND	ND	0.06	ND	ND	ND	ND	0.006	ND	ND	<0.010	<0.0500	
Zinc, Dissolved		ND	0.0263	ND	0.02	ND	ND	ND	0.22	ND	ND	ND	<0.050	0.0272	••

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that tota

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L)

Metals reported in milligrams per liter (mg/L)

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those date

-- = No PRG assigned.

< = Not detected greater than the reporting limit provided</p> **Bold** = Analyte detected greater than the laboratory reporting limit *Italics* = Reporting limit greater than the corresponding PRG

NA = Not analyzed.

ND = Not detected greater than the method detection limit Shaded = Analyte detected greater than the corresponding PRG

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

									MONITOR	ING WELL	MW-9S (Ab	oveground	Storage Tan	k Area)								PRG
CONSTITUENT Date Sampled	3/1988	8/1988	7/24/1992	11/7/1995	8/27/1996	6/12/1997	11/18/1997	4/21/1998	10/15/1998	4/12/1999	10/20/1999	5/4/2000	10/2/2000	4/19/2001	10/30/2001	4/23/2002	10/23/2002	4/16/2003	10/15/2003	4/20/2004	10/19/2004	(μg/L)
VOCs (µg/L)								· · · · · · · · · · · · · · · · · · ·														
Acetone	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<20.0	<20.0	<20	<20	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	NA	<2.0	<2.0	
n-Butylbenzene	ND	ND	ND	4.2	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1
2-Butanone (MEK)	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<12.5	<20	<20	
Carbon Disulfide	ND	0.59	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<20	<20	768
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<2.0 (J)	<2.0	
1,1-Dichloroethane	ND	8.3	ND	18	ND	13	ND	16	17	12	5.5	59	13	ND	1.5	1.7	3.9	4.2	<1.0	16	2.3	973
1,1-Dichloroethene	ND	92	ND	62 7	ND				1		- 2 -			ИD			- 3 <u>.</u>		<1.0			0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	NA	NA	NA	1488()()(12	17. 61.1	- 45 (A) (1) (1)	NA	1100 []	SAUGE*	A Section 1	NA	1、松锐()	gyntfil)	o to Militar	· 法解[[] []	1.1670.1	The book ()	[1564],00	A 18 18 1	t de ja	\$10.	70
trans-1,2-Dichloroethene	NA	NA	NA	Z0)	ND	(0)	NA			95	NA	15	77. 37	ND	74.9	63.3					84	100
1,2-Dichloroethene, Total	~~	a sagginger	5 5 5 D. F	30/HM	SEPTION .	J. HARO	1946P		ON His	. H. J. C.), [4], [1k]	S. ST.	2 F F 18	se "el∳G# .		and the same of	* 1 T. 1 p. s.			1.	4 A.	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0		<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	2.2	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<12.5	<12.5	<20	<20	487
1,1,1-Trichloroethane	ND	9.9	ND	ND	ND	ND	ND	13	21	13	ND	5.6	6.8	ND	1.3	2.5	5.0	3.2	9.6	11	1.4	200
1,1,2-Trichloroethane	ND	ND	ND		ND	ND	ND		v.	ND	ND		ND	ND	ND	ND	ND				<1.0	0.314
Dibromomethane	ND	ND	NA	1.8	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
Tetrachloroethene	ND		ND	11.4	ND	75.	430	2	2.5				1. W.J.	ND .	0,4	ş.,	5 165 T					1.43
Trichloroethene	1.3	15441.4	, 1.	$\mathcal{I}_{i}(t)$	THE ROLL	NAME OF	17 F 17 17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	***************************************	**(1,1,1,1	3450 C	SHI	717	一 建筑设置	· 法(类[[i]])****	6.7	. je ĝ	to age for					2.54
1,2,4-Trimethylbenzene	ND	ND	NA	4.3	ND	ND	NA	ND	ND	6,2	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	NA	NA	
Vinyl Chloride	ND								ND				`	ND		:						0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0		<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	700
Toluene	ND	21	ND	ND	ND	ND	ND	8.5	9.7	22	ND	ND	ND	ND	ND	ND	ND	<1.0	2.1	4.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.3	ND	ND	ND	ND	ND .	ND	ND	<1.0	<1.0	2.9	<1.0	828
TOTAL VOCs	51,000	50,641	33,040	48,363.1	52,680	42,506	110,066	35,591.5	31,530.7	25,773.5	14,033.5	49,585.0	58,529.8	21,400	8,064.0	13,025.1	25,124.8	25,038.2	62,373.0	74,844.6	12,068.4	
Metals (mg/L)																				_		
Arsenic, Dissolved	0.008	0.0106	0.011	0.01	0.006	ND	ND	ND	ND	ND	0.026	ND	0.0051	ND	ND	ND	ND	< 0.10	< 0.100	< 0.100	< 0.0100	
Barium, Dissolved	0.181	0.139	0.144	0.11	0.04	ND	ND	0.035	0.079	0.04	0.059	0.08	0.055	0.027	0.053	0.027	0.121	0.089	0.048	0.0749	0.0900	
Cadmium, Dissolved	ND	ND	271	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.030	< 0.030	<0.005	< 0.00100]
Chromium, Dissolved total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0052	ND	ND	ND	ND	ND	ND	<0.040	<0.040	<0.005	< 0.0100	
Cyanide, Total	0.03	0.014	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.005	<0.005	< 0.005	< 0.00500	
Lead, Dissolved	ND	ND	ND	ND	0.0031	ND	ND	0.042	ND	ND	0.0026	ND	ND	ND	ND	0.15	ND	< 0.080	<0.080	<0.005	< 0.00500	
Nickel, Dissolved	ND	0.0106	ND	ND	ND	ND	ND	ND	ND	ND	0.027	ND	0.032	0.0073	0.01	0.013	0.022	0.018	0.020	0.0169	< 0.0500	1
Zinc. Dissolved	ND	0.0212	0.015	ND	ND	0.023	0.03	ND	ND	ND	0.062	ND	ND	ND	ND	ND	ND	< 0.050	< 0.050	<0.020	<0.0200	
2317, 21001100												. 1,5							-0.050	-0.020	-0.0200	<u></u>

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total.

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV, and April 2003 and October 2003 data validated to Level II; no flags were required for the data in this table collected on those dates. April 2004 data validated to Level II; (J) = estimated.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

-- = No PRG assigned.

NA = Not analyzed.

< = Not detected greater than the reporting limit provided.

Bold = Analyte detected greater than the laboratory reporting limit. *Italics* = Reporting limit greater than the corresponding PRG.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

Table 3 Monitoring Well Analytical Results Wayne Reclamation & Recycling

									MONITO	RING WELI	L MW-10S	(Southeast A	rea)								PRG
CONSTITUENT Date Sampled	3/1988	8/1988	7/23/1992	11/08/1995	8/27/1996	11/18/1997	4/21/1998	10/15/1998	4/12/1999	10/13/1999	5/04/2000	10/02/2000	4/19/2001	10/31/2001	4/23/2002	10/25/2002	4/16/2003	10/15/2003	4/20/2004	10/22/2004	(μg/L)
VOCs (µg/L)																					
Acetone	ND	ND	ND	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<20.0	<20.0	<20	<20	3,650
Bromomethane	ND	ND	ND	4.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	NA	<2.0	<2.0	
n-Butylbenzene	ND	ND	NA	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	4.5	<1.0	<1.0	
2-Butanone (MEK)	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<12.5	<20	<20	
Carbon Disulfide	ND	ND	ND	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<20	<20	768
Chloroethane	ND	ND	ND	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 5.0	<5.0	<2.0 (J)	<2.0	
1,1-Dichloroethane	630	140	91	ND	ND	ND	ND	28	6.3	7.9	ND	5.7	ND	ND	1.9	5.1	1.1	<1.0	<1.0	1.2	973
1,1-Dichloroethene	ND	والمراكم والم	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	<i>i</i>	148 P. C.	<1.0	< 1.0	<1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	NA	NA	NA	CRIXITY O	SERVICE STREET	NA	23.00		一点的影	6.8	· BROOM	TAME.	2 (1)	操作 交通 100	(SE)301	E CALL	43.8	(28 KN)	1177		70
trans-1,2-Dichloroethene	NA	NA	NA	SEE .	350	NA	100	FAIr	AMP	IN ALL THE		14. DE.	MIC	6.2	onky.	(6)	47	80.6	41		100
1,2-Dichloroethene, Total	न्त्रभग्राहिक			TELL!	THE STATE OF	建筑的	SOU	4. S. P. L.	Tribe.	AULA'S		16 M	A R	124.2	riky.	4 (40)	90.8	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	3.4		(170)
1,2-Dichloropropane	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	<1.0	<1.0	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<12.5	<12.5	<20	<20	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.314
Dibromomethane	ND	ND	NA	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.43
Trichloroethene	ND	2	ND		1 7 F	ND	ND		ND	ND	ND	ND	ND	ND			1.3	1.9			2.54
1,2,4-Trimethylbenzene	ND	ND	NA	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	NA	NA	
Vinyl Chloride	8.25kg -	1.53(1)		(z/ ^{a2}),	(34)	128	1. (操作)	11.51	2003	i	ND	15	ND	ND		in Section					0.0283
Benzene	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.617
Ethylbenzene	ND	4	ND	5.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	700
Toluene	ND	. 43.5	1.2155	270	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1,000
Xylenes, Total	ND	28	96	21.3	ND	ND_	ND	ND _	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	828
TOTAL VOCs	62,130	32,501	20,987	40,456.0	16,120	8,510	5,530	4,509	8,426.3	12,721.5	3,770	3,625.7	2,030	124.2	3,195.3	5,540.2	215.2	1,292.8	1,250.5	1,507.9	
Metals (mg/L)																					
Arsenic, Dissolved	0.009	ND	ND	0.006	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	< 0.10	< 0.100	0.0242	< 0.0100	
Barium, Dissolved	0.239	0.0537	0.137	0.04	0.04	0.062	ND	0.032	0.023	0.36	0.068	0.033	0.047	0.064	0.061	NA	0.035	<0.020	0.0324	0.0686	
Cadmium, Dissolved	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	< 0.030	< 0.030	< 0.005	< 0.00100	
Chromium, Dissolved total	0.017	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	<0.040	< 0.040	0.00849	< 0.0100	1
Cyanide, Total	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0094	ND	0.037	NA	< 0.005	0.011	0.0381	0.0128	
Lead. Dissolved	ND	ND	ND	ND	0.0028	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.17	NA	<0.080	< 0.080	< 0.005	< 0.00500	
Nickel, Dissolved	ND	ND	0.021	ND	ND	0.021	ND	ND	ND	ND	ND	0.009	0.0052	0.012	ND	NA	0.035	0.017	0.0218	< 0.0500	
Zinc. Dissolved	ND	0.0089	ND	ND	ND	ND	ND	ND	ND	0.34	ND	ND	ND	ND	ND	NA NA	< 0.050	< 0.050	0.0295	0.0232	
Zille, Dissolved	110	0.0007				1.10			110	U.D.4	110	140	110			11/1	-0.050	-0.050	- U.U.E./J	V.V232	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total.

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV, and April 2003 and October 2003 data validated to Level II; no flags were required for the data in this table collected on those dates.

Due to dry conditions at the site, there was inadequate groundwater volume for analysis of the complete sample set in October 2002; thus samples for submitted for VOC analysis only.

April 2004 data validated to Level II; (J) = estimated.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

< = Not detected greater than the reporting limit provided. **Bold** = Analyte detected greater than the laboratory reporting limit.

Italics = Reporting limit greater than the corresponding PRG.

^{-- =} No PRG assigned.

NA = Not analyzed.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

													PRG		
CONSTITUENT Date Sampled	3/1988	8/1988	7/24/1992	11/08/1995	8/27/1996	11/06/1996	6/13/1997	10/15/1998	10/13/1999	10/02/2000	10/31/2001	10/24/2002	10/15/2003	10/22/2004	(μg/L)
VOCs (µg/L)								· <u></u>		<u> </u>					
Acetone	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	ND	ND	NA	ND	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<20.0	[
Carbon Disulfide	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane	ND	ND	ND	19	5.3	8.3	6.6	ND	5.4	5.7	8.6	5.9	5.9	3.7	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	20.3	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene	NA	NA	ND	280 📆	150	200	70.	- 3160 F	440	460	669	₹ 694	746	3 14 4 90	70
trans-1,2-Dichloroethene	NA	NA	ND	15	6.5	10	10	ND	ND	12	15.7	8.7	<1.0	5.6	100
1,2-Dichloroethene, Total	44	19	ND	295	156.5	210	1 4 180	160	440	472	684.7	702.7	型。746年至	495.6	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichtoroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	ND	ND	NA	ND	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene	ND	ND	ND	4.1	117	₹: 3.8	4.3	8.		£ 6.2	10.5	4.0	4.4	强烈74.	2.54
1,2,4-Trimethylbenzene	ND	ND	NA	ND	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride	4	3	20	18	12	14	18	64	190	160	112	¥120 -	. 138	2.2	0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0_	828
TOTAL VOCs	48	22	20	336.1	192.3	236.1	208.9	232	635.4	643.9	815.8	832.6	894.3	508.2	
Metals (mg/L)															
Arsenic, Dissolved	ND	ND	ND	0.001	ND	ND	ND	ND	ND	ND	ND	ND	< 0.100	<0.0100	
Barium, Dissolved	0.418	0.285	0.17	0.11	0.05	ND	ND	0.042	0.082	0.059	0.085	0.122	0.106	0.0830	
Cadmium, Dissolved	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.030	<0.00100	
Chromium, Dissolved total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.040	< 0.0100	
Cyanide, Total	ND	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.005	<0.00500	
Lead, Dissolved	ND	ND	ND	ND	0.0028	ND	ND	0.015	ND	ND	ND	ND	<0.080	<0.00500	
Nickel, Dissolved	ND	ND	ND	ND	0.03	ND	ND	ND	ND	0.006	ND	ND	< 0.010	<0.0500	
Zinc, Dissolved	0.026	0.0145	0.122	ND	ND	ND	0.021	ND	0.025	ND	ND	0.052	< 0.050	<0.0200	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (μ g/L) Metals reported in milligrams per liter (μ g/L).

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those dates

-- = No PRG assigned.

< = Not detected greater than the reporting limit provided.</p>
Bold = Analyte detected greater than the laboratory reporting limit.
Italics = Reporting limit greater than the corresponding PRG.

NA = Not analyzed.

ND = Not detected greater than the method detection limit. Shaded = Analyte detected greater than the corresponding PRG.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

				MONITORING WELL N	/W-13S (Southeast Area)			PRG
CONSTITUENT	Date Sampled	8/1988	11/1/2001	4/23/2002	10/24/2002	10/17/2003	10/22/2004	(μ <u>g</u> /L)
VOCs (µg/L)								
Acetone		ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	1	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene		ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)		ND	NA	NA	NA	<12.5	<20.0	
Carbon Disulfide		ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane		ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane		ND	ND	ND	ND	<1.0	<1.0	973
1,1-Dichloroethene		ND	ND	ND	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane		ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene	1	NA	, 551	ACTP CO	44.82	Land Alika		70
trans-1,2-Dichloroethene		NA	11.7	6.4	6.1	3.3	1.9	100
1,2-Dichloroethene, Total		28	802	30 35	2247	131.3	88.9	(170)
1,2-Dichloropropane		ND	s en		10 mg		<1.0	1.25
Chloroform		ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIB	K)	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane		ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethane		ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane		ND	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene	Ì	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene		ND		fa ()		**************************************		2.54
1,2,4-Trimethylbenzene		ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride		ND	. Ala,	2			•	0.0283
Benzene		ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ſ	ND	ND	ND	ND	<1.0	<1.0	700
Toluene		ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total		ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs		28	540.1	367.1	422.5	255.3	221.9	••
Metals (mg/L)								
Arsenic, Dissolved		0.0036	ND	ND	ND	<0.100	<0.0100	
Barium, Dissolved		0.0705	0.19	0.12	0.218 (J)	0.177	0.106	
Cadmium, Dissolved		ND	ND	ND	ND	<0.030	<0.00100	
Chromium, Dissolved total		ND	ND	ND	ND	<0.040	<0.0100	
Cyanide, Total		0.048	NA	NA	NA	NA	NA	
Lead, Dissolved		ND	ND	0.16	ND	<0.080	<0.00500	
Nickel, Dissolved		0.0167	ND	ND	ND	<0.010	<0.0500	
Zinc, Dissolved	j	0.0542	ND	ND	0.054 (J)	<0.050	<0.0200	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total.

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV, and October 2003 data validated to Level II; no flags were required for the data in this table collected on those dates. April 2004 data validated to Level II; (J) = estimated.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

-- = No PRG assigned.

< = Not detected greater than the reporting limit provided.</p>
Bold = Analyte detected greater than the laboratory reporting limit.
Italics = Reporting limit greater than the corresponding PRG.
ND = Not detected greater than the method detection limit.
Shaded = Analyte detected greater than the corresponding PRG.

NA = Not analyzed.

Table 3

Monitoring Well Analytical Results

Wayne Reclamation & Recycling

	MONITORING WELL MW-13D (Southeast Area)	PRG
CONSTITUENT Date S	ampled 1/28/2002 ⁽¹⁾	(μg/L)
VOCs (µg/L)		
Acetone	ND	3,650
Bromomethane	ND	
n-Butylbenzene	ND	
2-Butanone (MEK)	ND	
Carbon Disulfide	ND	768
Chloroethane	ND	
1,1-Dichloroethane	ND	973
1,1-Dichloroethene	ND	0.0167
1,2-Dichloroethane	ND	
cis-1,2-Dichloroethene	ND	70
trans-1,2-Dichloroethene	ND	100
1,2-Dichloroethene, Total	ND	(170)
1,2-Dichloropropane	ND	1.25
Chloroform	ND	0.274
4-Methyl-2-pentanone (MIBK)	ND	487
1,1,1-Trichloroethane	ND	200
1,1,2-Trichloroethane	ND	0.314
Dibromomethane	ND	
Tetrachloroethene	ND	1.43
Trichloroethene	ND	2.54
1,2,4-Trimethylbenzene	ND	
Vinyl Chloride	ND	0.0283
Benzene	ND	0.617
Ethylbenzene	ND	700
Toluene	ND	1,000
Xylenes, Total	ND	828
TOTAL VOCs	ND	
Metals (mg/L)		
Arsenic, Dissolved	<0.005	-
Barium, Dissolved	0.10	
Cadmium, Dissolved	<0.03	
Chromium, Dissolved total	<0.04	
Cyanide, Total	NA.	
Lead, Dissolved	<0.08	
Nickel, Dissolved	<0.02	
Zinc, Dissolved	<0.05	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (μ g/L) Metals reported in milligrams per liter (μ g/L).

NA = Not analyzed.

⁽¹⁾ Data suspect due to well integrity.

^{-- =} No PRG assigned.

< = Not detected greater than the reporting limit provided.</p>
Bold = Analyte detected greater than the laboratory reporting limit.

ND = Not detected greater than the method detection limit.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

	MONITORING WELL MW-14S (Aboveground Storage Tank Area)												PRG								
CONSTITUENT Date Sampled	8/1988	7/23/1992	11/7/1995	8/27/1996	6/11/1997	11/18/1997	4/21/1998	10/15/1998	4/12/1999	10/14/1999	5/4/2000	10/2/2000	4/19/2001	10/30/2001	4/23/2002	10/23/2002	4/16/2003	10/15/2003	4/20/2004	10/19/2004	(μg/I
VOCs (µg/L)						•				-											
Acetone	ND	ND	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<20.0	<20.0	<20	<20	3,65
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	NA	<2.0	<2.0	
n-Butylbenzene	ND	NA	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
2-Butanone (MEK)	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<12.5	<20	<20	
Carbon Disulfide	ND	ND	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<20	<20	768
Chloroethane	ND	ND	5.4	22	6.6	6.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.8	< 5.0	<2.0 (J)	<2.0	
1,1-Dichloroethane	270	86	320	260	150	160	74	63	19	21	12	13	5.7	7.4	8.4	10.2	8.6	9.1	4.9	13	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.016
1,2-Dichloroethane	ND	ND	1.1	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
cis-1,2-Dichloroethene	NA	NA	45	20	3.9	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	70
trans-1,2-Dichloroethene	NA	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	100
1,2-Dichloroethene, Total	1173	. 1	45	20	3.9	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	(170
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.27
4-Methyl-2-pentanone (MIBK)	ND	ND	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<12.5	<12.5	<20	<20	487
1,1,1-Trichloroethane	ND	5	10	9.1	4.9	2.6	ND	ND	5.2	ND	ND	ND	14	15.1	4.7	2.0	9.5	3.5	4.3	10	200
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.31
Dibromomethane	ND	NA '	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.43
Trichloroethene	ND	ND	12-5	i i	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	建 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<1.0	2.54
1,2,4-Trimethylbenzene	ND	NA	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	NA	NA	
Vinyl Chloride	14(1:4)	i HE		and a		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	201	<1.0	<1.0	< 1.0	< 1.0	0.028
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	< 1.0	< 1.0	<1.0	0.61
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	700
Toluene	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1,00
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.3	<1.0	828
TOTAL VOCs	1,066	209	402.0	329.0	166.5	171.5	74	63	24.2	21	12	13	19.7	22.5	13.1	16.3	23.9	12.6	13.5	23	
Metals (mg/L)							_				-										
Arsenic, Dissolved	0.0054	0.0077	0.014	0.004	ND	ND	ND	ND	ND	0.0079	ND	0.021	ND	ND	ND	ND	< 0.10	< 0.100	0.0221	0.0136	
Barium, Dissolved	0.0891	0.062	0.05	0.05	0.066	0.069	0.066	0.084			0.095				0.089			0.088	0.117	0.121	
Cadmium, Dissolved	ND	0.002 ND	ND	ND	0.000 ND	0.069 ND	0.000 ND	0.084 ND	0.056 ND	0.1 ND	0.095 ND	0.11 ND	0.07 ND	0.065 ND	0.089 ND	0.13 ND	0.123 < 0.030	< 0.030	<0.005	< 0.00100	<u> </u>
Chromium, Dissolved total	ND	ND ND	ND ND	ND	ND ND		ND ND	ND ND	ND ND	ND ND	ND		ND	ND	ND ND	ND ND	<0.030	< 0.030	<0.005	< 0.00100	
Cyanide, Total	0.035	0.006	ND ND	ND ND		ND		ND ND				ND 0.000			ND ND			< 0.040	<0.005	<0.0100	
Lead, Dissolved	0.035 ND	0.006 ND	ND ND	0.0065	ND ND	ND	0.0078		0.017	ND	ND	0.009	ND	0.014		ND	0.006 <0.080		<0.005 <0.005	<0.00500	
Nickel, Dissolved	ND ND					ND	ND	ND	ND	ND	ND	ND 0.000	ND	ND	0.17	ND		<0.080			
'		ND	ND	0.02	0.027	0.026	0.022	ND	ND	ND	ND	0.009	0.016	0.01	0.011	0.012	< 0.010	< 0.010	0.0102	<0.0500	
Zinc, Dissolved	0.0035	0.021	ND	ND	0.026	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.050	<0.050	0.0280	<0.0200	<u></u>

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total.

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV, and April 2003 and October 2003 data validated to Level II; no flags were required for the data in this table collected on those dates. April 2004 data validated to Level II; (J) = estimated.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

-- = No PRG assigned.

NA = not analyzed.

< = Not detected greater than the reporting limit provided.

Boid = Analyte detected greater than the laboratory reporting limit.

Italics = Reporting limit greater than the corresponding PRG.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

			Me	ONITORING WELL	MW-15S (Abovegrou	und Storage Tank Are	ea)			PRG
CONSTITUENT Date San	npled 8/6/1992	11/29/1995	6/12/1997	10/14/1999	10/2/2000	10/30/2001	10/23/2002	10/15/2003	10/19/2004	(μg/L)
VOCs (µg/L)										
Acetone	ND	NA	NA	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	NA	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	ND	NA	NA	NA	NA	NA	NA	<12.5	<20.0	
Carbon Disulfide	ND	NA	NA	ND	ND	ND	ND	<1.0	<20	768
Chloroethane	ND	ND	ND	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane	6	5.8	4.9	ND	ND	1.5	ND	<1.0	<1.0	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene	10	13	41	NA	ND	32.9	5.9	12.9	2.9	70
trans-1,2-Dichloroethene	ND	ND	2.5	NA	ND	2.3	ND	<1.0	<1.0	100
1,2-Dichloroethene, Total	10	13	43.5	ND	ND	35.2	5.9	12.9	2.9	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	NA	NA	ND	ND	ND	ND	<12.5	<20	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	NA	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene	ND	ND	165			V 145 1			42.5 / 10.71.57	2.54
1,2,4-Trimethylbenzene	NA	ND	ND	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride	ND			ND	ND	ND	ND	<1.0	<1.0	0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	1.1	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs	16	47.9	115.7	5.8	11	181.7	19.8	105.5	15.9	
Metals (mg/L)										
Arsenic, Dissolved	0.0196	ND	ND	0.0059	ND	ND	ND	< 0.100	< 0.0100	
Barium, Dissolved	0.219	0.14	0.053	0.086	0.097	0.09	0.106	0.079	0.103	
Cadmium, Dissolved	0.015	ND	ND	ND	ND	ND	ND	<0.030	< 0.00100	
Chromium, Dissolved total	ND	0.011	ND	ND	ND	ND	ND	<0.040	<0.0100	
Cyanide, Total	ND	ND	ND	ND	ND	ND	ND	<0.005	< 0.00500	
Lead, Dissolved	ND	ND	0.0038	ND	ND	ND	ND	<0.080	< 0.00500	
Nickel, Dissolved	ND	ND	ND	ND	0.007	ND	ND	0.011	<0.0500	
Zinc, Dissolved	0.047	ND	0.055	ND	ND	ND	ND	<0.050	0.0210	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L)

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those dates

-- = No PRG assigned.

< = Not detected greater than the reporting limit provided.

Bold = Analyte detected greater than the laboratory reporting limit.

Italics = Reporting limit greater than the corresponding PRG.

NA = Not analyzed.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

		·		MON	ITORING WELL	MW-16S (Abovegro	ound Storage Tank	Area)				PRG
CONSTITUENT Date Sampled	8/6/1992	11/7/1995	11/6/1996	6/11/1997	10/15/1998	10/14/1999	10/2/2000	11/1/2001	10/23/2002	10/15/2003	10/19/2004	(μg/L)
VOCs (µg/L)		-										
Acetone	ND	NA	NA	NA	NA	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	NA	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	ND	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<20.0	
Carbon Disulfide	ND	NA	NA	NA	NA	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane	ND	ND	NA	ND	ND	ND	ND	ND	ND	< 5.0	<2.0	
1,1-Dichloroethane	55	85	26	58	37	38	ND	6.1	30.3	63.1	26	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane	ND	1.4	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene	NA	/FQ),	50	Ē	NA	1. 12.	160.	18.5	2018			70
trans-1,2-Dichloroethene	NA	ND	1.3	5.3	NA NA	NA	ND	ND	2.5	11.0	2.2	100
1,2-Dichloroethene, Total	41		51.3	80.3	130	93	93	18.5	89.9	158	75.2	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	NA	NA	NA	NA	ND	ND	ND	ND	<12.5	20.0	487
1,1,1-Trichloroethane	8	2.7	1	2.9	ND	6.9	ND	1.4	10.2	56.2	17	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	NA	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene	ND	1942	ND	ND		ND	ND	1.0	ND	2.2	<1.0	2.54
1,2,4-Trimethylbenzene	NA	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride	A 100	Or Ware	104	er di ser	\$ 17. A	15	ND	ND	15.6- Am	<1.0	表。786万至	0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs	204	327.0	97.3	157.2	251	152.9	93	27.0	146.0	279.5	146.8	••
Metals (mg/L)										-		
Arsenic, Dissolved	0.0025	0.003	ND	ND	ND	ND	0.021	ND	ND	< 0.100	< 0.0100	
Barium, Dissolved	0.05	0.06	0.065	ND	0.054	0.059	0.11	0.034	0.146	0.081	0.0755	
Cadmium, Dissolved	ND	ND	ND	0.00024	ND	ND	ND	ND	ND	< 0.030	<0.00100	
Chromium, Dissolved total	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.040	<0.0100	
Cyanide, Total	ND	ND	ND	0.011	ND	ND	0.009	ND	ND	0.021	<0.00500	
Lead, Dissolved	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.080	<0.00500	
Nickel, Dissolved	ND	ND	ND	ND	ND	ND	0.009	ND	ND	< 0.010	<0.0500	
Zinc, Dissolved	0.038	ND	ND	0.028	ND	ND ND	ND	ND	0.06	< 0.050	<0.0200	
			110	0.020	שויו	NU		110		70.030	-0.0200	

<= Not detected greater than the reporting limit provided</p>
Bold = Analyte detected greater than the laboratory reporting limit
Italics = Reporting limit greater than the corresponding PRG

NA = Not analyzed.

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that tota

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L)

Metals reported in milligrams per liter (mg/L)

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that data

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those date

^{-- =} No PRG assigned.

ND = Not detected greater than the method detection limit

Shaded = Analyte detected greater than the corresponding PRG

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

		MONITORING WELL MW-18S	(Aboveground Storage Tank Area)	PRG
CONSTITUENT	Date Sampled	8/1/1992 ⁽¹⁾	11/1/2001	(µg/L)
VOCs (µg/L)				
Acetone		ND	ND	3,650
Bromomethane		ND	ND	,
n-Butylbenzene		ND	ND	
2-Butanone (MEK)		NA	NA	
Carbon Disulfide		ND	ND	768
Chloroethane		ND	ND	
1,1-Dichloroethane		ND	ND	973
1,1-Dichloroethene		ND	ND	0.0167
1,2-Dichloroethane		ND	ND	
cis-1,2-Dichloroethene		ND	ND	70
trans-1,2-Dichloroethene		ND	ND	100
1,2-Dichloroethene, Total		ND	ND	(170)
1,2-Dichloropropane		ND	ND	1.25
Chloroform		ND	ND	0.274
4-Methyl-2-pentanone (MIBK)		ND	ND	487
1,1,1-Trichloroethane		ND	ND	200
1,1,2-Trichloroethane		ND	ND	0.314
Dibromomethane		ND	ND	
Tetrachloroethene		ND	. ND	1.43
Trichloroethene		ND	ND	2.54
1,2,4-Trimethylbenzene		ND	ND	
Vinyl Chloride		ND		0.0283
Benzene		ND	ND	0.617
Ethylbenzene		ND	ND	700
Toluene		ND	ND	1,000
Xylenes, Total		ND	ND	828
TOTAL VOCs		ND	1.6	
Metals (mg/L)				
Arsenic, Dissolved		ND	ND	
Barium, Dissolved		0.177	0.084	
Cadmium, Dissolved		ND	ND	
Chromium, Dissolved total		ND	ND	
Cyanide, Total		NA	NA	
Lead, Dissolved		ND	ND	
Nickel, Dissolved		ND	ND	
Zinc, Dissolved		5.56	0.2	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (μ g/L) Metals reported in milligrams per liter (μ g/L).

Bold = Analyte detected greater than the laboratory reporting limit. NA = Not analyzed.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

⁽¹⁾ August 1992 data from Technical Memorandum (Warzyn, November 1992).

^{-- =} No PRG assigned.

Table 3

Monitoring Well Analytical Results

Wayne Reclamation & Recycling

		MONITORING WELL MW-83AS (Southeast Area)												PRG									
CONSTITUENT	Date Sampled	3/1988 ⁽¹⁾	8/1988 ⁽¹⁾	7/23/1992	11/08/1995	8/27/1996	6/13/1997	11/18/1997	4/21/1998	10/15/1998	4/12/1999	10/13/1999	5/04/2000	10/02/2000	4/19/2001	10/31/2001	4/23/2002	10/24/2002	4/16/2003	10/15/2003	4/20/2004	10/20/2004	(μg/L)
VOCs (ug/L)																							
Acetone		ND	ND	ND	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<20.0	<20.0	<20	<20	3,650
Bromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	NA	<2.0	<2.0	
n-Butylbenzene		ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	-
2-Butanone (MEk	K)	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.5	<12.5	<20	<20	-
Carbon Disulfide	,	ND	ND	ND	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<20	<20	768
Chloroethane		ND	ND	ND	ND	ND	5.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<5.0	<2.0 (J)	<2.0	-
1.1-Dichloroethar	ne	ND	ND	ND	48	72	51	56	ND	42	39	43	38	26	ND	31	29.1	33.3	18.1	23.7	21	23	973
1,1-Dichloroether	ne	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	< 1.0	<1.0	<1.0	0.0167
1,2-Dichloroethar	ne	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
cis-1,2-Dichloroe	ethene	ND	ND	NA	17. JU	TAKEN.		NA	, built	44(4)	1. (U) (U)	, <u>134</u> - \$1	S. Okto	五次局	100	9.	10	200	1.64	(2)	S. 3000 B		70
trans-1,2-Dichlore	roethene	ND	ND	NA	68	1.	56	NA NA	ND	32	21	17	14	5.9	ND	21	12.6	2.3	2.5	<1.0	1.6	1.5	100
1,2-Dichloroether	ne, Total	ND	ND	1.00	~1.6E	1 1:4	1970	. <u>- 19</u> 05 -	(D)	3.57		1. (4.		1 - 1 Age -	5.5	185	240	100	(10/5)	144	4000	* - OB	(170)
1,2-Dichloropropa	ane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.25
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	< 1.0	<1.0	<1.0	0.274
4-Methyl-2-penta	anone (MIBK)	ND	ND	ND	NA	NA	NA	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<12.5	<12.5	<20	<20	487
1,1,1-Trichloroett		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	200
1,1,2-Trichloroetl	thane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	<1.0	<1.0	0.314
Dibromomethane	e '	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	
Tetrachloroethene	ie i	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.43
Trichloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.0	<1.0	2.54
1,2,4-Trimethylbe	enzene	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	NA	NA	
Vinyl Chloride		114	(C)	. <u>UU</u> .	2.200fr	:000	7.00	· COLET	SUDE.	READ OF	0.00	. 3(U	7 500	1807.	3.7	وران المرابان	487	29.57	1938 B. T.		2 4 W	4 . U.D.	0.0283
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	0.617
Ethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	700
Toluene		ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1,000
Xylenes, Total		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND_	ND	ND	ND	ND	ND	ND	<1.0	<1.0_	<1.0	<1.0	828
TOTAL VOCs		110	140.7	13,200	16,816	16,782	12,516.2	10,156	6,100	1,984	5,050	4,290	2,802	1,911.9	970	2,181	1,618.7	1,672.6	1,056.6	1,348.7	1,093.6	1,464.5	
Metals (mg/L)																							l
Arsenic, Dissolve	ed	ND	ND	ND	0.003	ND	0.0022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.10	< 0.100	< 0.0100	< 0.0100	
Barium, Dissolve		0.186	0.117	0.111	0.18	0.09	ND	ND	0.048	0.055	0.088	0.09	0.094	0.068	0.063	0.17	0.068	0.16	0.125	0.078	0.0910	0.109	
Cadmium, Dissol		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.030	< 0.030	< 0.005	< 0.00100	
Chromium, Disso		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.040	< 0.040	< 0.005	< 0.0100	
Cyanide, Total		ND	0.022	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.005	0.0089	< 0.005	< 0.00500	
Lead, Dissolved		ND	ND	ND	ND	0.011	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	ND	<0.080	< 0.080	< 0.005	< 0.00500	-
Nickel, Dissolved	d	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND	ND	ND	< 0.010	< 0.010	< 0.0100	< 0.0500	
Zinc, Dissolved		ND	0.0054	ND	ND	ND	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.063	< 0.050	< 0.050	< 0.0200	< 0.0200	
		<u> </u>																					

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total.

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

October 2002 data validated to Level IV, and April 2003 and October 2003 data validated to Level II; no flags were required for the data in this table collected on those dates. April 2004 data validated to Level II; (J) = estimated.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

-- ≈ No PRG assigned.

< = Not detected greater than the reporting limit provided.

Bold = Analyte detected greater than the laboratory reporting limit.

Italics = Reporting limit greater than the corresponding PRG.

NA = Not analyzed.

ND = Not detected greater than the method detection limit.

Shaded = Analyte detected greater than the corresponding PRG.

Metals reported in milligrams per liter (mg/L).

⁽¹⁾ Possible mislabeling of sample occurred in 1988.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

	-	MONITORING WELL MW-83AD (Southeast Area)												PRG	
CONSTITUENT	Date Sampled	3/1988	8/1988	7/31/1992	11/8/1995	11/6/1996	6/13/1997	10/15/1998	10/13/1999	10/2/2000	10/31/2001	10/24/2002	10/15/2003	10/20/2004	(μg/L)
VOCs (µg/L)		-													
Acetone		ND	ND	ND	NA	NA	NA	NA	NA	NA	ND	ND	<20.0	<20.0	3,650
Bromomethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene		NĐ	ND	NA	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)		ND	ND	ND	NA	NA	NA	NA	NA	NA	ND	ND	<12.5	<20.0	
Carbon Disulfide		ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane		ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane		ND	ND	0.6	ND	1.5	ND	ND	ND	ND	ND	ND	<1.0	<1.0	973
1,1-Dichloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethe	ne	ND	NA	NA	· AU. Sec	当为1,800年,	60	38	33	8.9	9.3	3.5	2.4	2.2	70
trans-1,2-Dichloroeth	nene	ND	NA	NA	ND	ND	ND	ND	ND	NA	ND	ND	<1.0	<1.0	100
1,2-Dichloroethene,	Total	ND	7.2	10	140	88	60	38	33	8.9	9.3	3.5	2.4	2.2	(170)
1,2-Dichloropropane		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanor	e (MIBK)	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethan	e	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethan	e	ND	ND	ND	ND	ND	ND	ND	2. 18 点点	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane		ND	ND	NA	ND	NA	NA	NA	ND	ND	ND	·ND	<1.0	<1.0	
Tetrachloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	2.54
1,2,4-Trimethylbenze		ND	ND	NA	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride				AND SEP	. × 1110 × 7.	多级的 3.4 数	2 2 54 3	78.8	41. 1. 1. 35 🕏 🙈	25 3 16 ₹ 3 3	3.9	5.8	3.4	<1.0	0.0283
Benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene		ND	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs		4	46.1	13.6	250	163	114	46.8	81	24.9	13.2	9.3	5.8	2.2	
Metals (mg/L)							-								
Arsenic, Dissolved		NA	NA	ND	0.004	ND	ND	ND	ND	ND	ND	ND	< 0.100	< 0.0100	
Barium, Dissolved		NA NA	NA	0.022	0.25	0.24	0.27	0.17	0.19	0.17	0.16	0.288	0.217	0.149	
Cadmium, Dissolved		NA NA	NA NA	0.005	0.25 ND	0.24 ND		ND	ND	ND	ND	0.266 ND	< 0.030	< 0.00100	
Chromium, Dissolved		NA NA	NA NA	0.005 ND	ND ND	ND ND	ND ND		ND ND	ND ND	ND ND	ND ND	<0.030	< 0.0100	
Cyanide, Total	G (Otal	NA NA	NA NA	0.07				ND ND	ND ND		ND ND		<0.040	<0.0100	T
Lead, Dissolved		NA NA	NA NA	0.07 ND	ND ND	ND ND	0.014	ND ND	ND ND	ND ND	ND ND	ND ND		<0.00500	
Nickel, Dissolved		NA NA	NA NA		ND ND	ND ND	ND	ND ND	ND ND	ND		ND ND	<0.080		
Zinc, Dissolved		NA NA	NA NA	ND ND	ND	ND ND	ND	ND		0.004	ND	ND	<0.010	< 0.0500	
Zilic, Dissolved		INA		ND	0.01	ND	0.02	0.022	0.02	ND	0.069	0.057	<0.050	0.0287	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that tota

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L)

Metals reported in milligrams per liter (mg/L)

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that data

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those date

-- = No PRG assigned.

< = Not detected greater than the reporting limit provided</p>
Bold = Analyte detected greater than the laboratory reporting limit
Italics = Reporting limit greater than the corresponding PRG

NA = Not analyzed.

ND = Not detected greater than the method detection limit Shaded = Analyte detected greater than the corresponding PRG

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

					MONITORING	WELL MW-83B (Northeast Area)					PRG
CONSTITUENT Date Sample	d 3/1988	7/31/1992	6/7/1996	11/6/1996	6/12/1997	10/15/1998	10/2/2000	10/31/2001	10/23/2002	10/15/2003	10/20/2004	(µg/L)
VOCs (μg/L)												- · · · · · · · · · · · · · · · · · · ·
Acetone	270	ND	ND	NA	NA	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	ND	NA	ND	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	23	ND	ND	NA	NA	NA	NA	NA	NA	<12.5	<20.0	
Carbon Disulfide	ND	NA	ND	NA	NA	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane	ND	ND	ND	NA	ND	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	70
trans-1,2-Dichloroethene	ND	NA	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	100
1,2-Dichloroethene, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	NA	NA	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	ND	NA	ND	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	2.54
1,2,4-Trimethylbenzene	ND	NA	ND	NA	NA	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	< 1.0	0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs	293	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Metals (mg/L)												
Arsenic, Dissolved	ND	ND	0.003	0.0031	0.0027	ND	0.0054	ND	ND	< 0.100	< 0.0100	
Barium, Dissolved	ND	ND	0.16	0.22	0.19	0.16	0.26	0.18	0.227	0.257	0.225	
Cadmium, Dissolved	ND	0.005	ND	ND	ND	ND	ND	ND	ND	< 0.030	< 0.00100	
Chromium, Dissolved total	ND	ND	ND	ND	ND	ND	ND	ND	ND	<0.040	< 0.0100	
Cyanide, Total	ND	0.019	ND	ND	ND	ND	ND	ND	ND	0.0059	< 0.00500	
Lead, Dissolved	ND	ND	ND	ND	ND	ND	ND	ND	ND	< 0.080	<0.00500	
Nickel, Dissolved	ND	ND	0.02	0.021	ND	ND	ND	ND	ND	< 0.010	< 0.0500]
Zinc, Dissolved	ND	ND	0.1	0.081	0.029	ND	ND	ND	ND ND	<0.050	0.0252	
2.110, 210001100		110	V. I	0.001	0.047	ND	HD	ND -	שא	~0.050	0.0252	<u></u>

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L)

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date.

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those dates

-- = No PRG assigned.

NA = Not analyzed.

< = Not detected greater than the reporting limit provided.

Bold = Analyte detected greater than the laboratory reporting limit. *Italics* = Reporting limit greater than the corresponding PRG.

ND = Not detected greater than the method detection limit.

Table 3
Monitoring Well Analytical Results
Wayne Reclamation & Recycling

		MO	NITORING WELL MW-83DS	(Formerly GW-83E; Southeast A	Area)		PRG
CONSTITUENT Date Sampled	8/1988	11/1/2001	4/23/2002	10/24/2002	10/17/2003	10/22/2004	(μg/L)
VOCs (µg/L)							· · · · · · · · · · · · · · · · · · ·
Acetone	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	ND	NA	NA	NA	14.4	<20.0	
Carbon Disulfide	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane	ND	1.1	ND	ND	<1.0	<1.0	973
1,1-Dichloroethene	ND	ND	ND	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene	ND	情,是一种是国际的国际	4 350	20 - 3	210*-47-4	6-51° 4-72-600 (1985)	70
trans-1,2-Dichloroethene	ND	1.1	ND	ND	1.1	<1.0	100
1,2-Dichloroethene, Total	ND	103-2-103-2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	74 - 14 ESOS	\$200.595s	2016 · 12016	# 1900 E 5 S S S	(170)
1,2-Dichloropropane	ND	ND	ND	1.0	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethane	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	ND	ND	ND	ND	<1.0	<1.0	••
Tetrachloroethene	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene	ND	ND	ND	ND	<1.0	<1.0	2.54
1,2,4-Trimethylbenzene	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride	ND	Track April 6 5	120	1188	79.9	76	0.0283
Benzene	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	<1.0	<1.0	828
TOTAL VOCs	ND	209.2	470	509	334.4	266	
Metals (mg/L)							
Arsenic, Dissolved	0.003	ND	ND	ND	<0.100	<0.0100	
Barium, Dissolved	0.211	0.077	0.12	0.153	0.106	0.0947	
Cadmium, Dissolved	ND	ND	ND	ND	<0.030	<0.00100	
Chromium, Dissolved total	ND	ND	ND	ND	<0.040	<0.0100	
Cyanide, Total	ND	NA	NA	NA	NA	NA	
Lead, Dissolved	ND	ND	0.16	ND	<0.080	<0.00500	4-
Nickel, Dissolved	ND	ND	ND	ND	<0.010	<0.0500	
Zinc, Dissolved	ND	0.062	ND	ND	<0.050	<0.0200	

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L)

Metals reported in milligrams per liter (mg/L).

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date

October 2003 and October 2004 data validated to Level II; no flags were required for the data in this table collected on those dates

-- = No PRG assigned.

<= Not detected greater than the reporting limit provided.</p>
Bold = Analyte detected greater than the laboratory reporting limit.
Italics = Reporting limit greater than the corresponding PRG.
NA = Not analyzed.

ND = Not detected greater than the method detection limit. Shaded = Analyte detected greater than the corresponding PRG.

Table 3

Monitoring Well Analytical Results

Wayne Reclamation & Recycling

		MONITORING WELL MW-83DD	(Formerly GW-83D; Southeast Area)	PRG
CONSTITUENT	Date Sampled	8/1988	11/6/2001	(μg/L)
VOCs (µg/L)				
Acetone		ND	ND	3,650
Bromomethane		ND	ND	
n-Butylbenzene		ND	ND	
2-Butanone (MEK)		ND	NA	
Carbon Disulfide		ND	ND	768
Chloroethane		ND	ND	
1,1-Dichloroethane		ND	ND	973
1,1-Dichloroethene		ND	ND	0.0167
1,2-Dichloroethane		ND	ND	
cis-1,2-Dichloroethene		ND	ND	70
trans-1,2-Dichloroethene		ND	ND	100
1,2-Dichloroethene, Total		ND	ND	(170)
1,2-Dichloropropane		ND	ND	1.25
Chloroform		ND	ND	0.274
4-Methyl-2-pentanone (MIB	K)	ND	ND	487
1,1,1-Trichloroethane		ND	ND	200
1,1,2-Trichloroethane		ND	ND	0.314
Dibromomethane		ND	ND	
Tetrachloroethene		ND	ND	1.43
Trichloroethene		ND	ND	2.54
1,2,4-Trimethylbenzene		ND	ND	
Vinyl Chloride		ND	ND	0.0283
Benzene		ND	ND	0.617
Ethylbenzene		ND	ND	700
Toluene		ND	ND	1,000
Xylenes, Total		ND	ND	828
TOTAL VOCs		ND	ND	
Metals (mg/L)				
Arsenic, Dissolved		0.057	ND	
Barium, Dissolved		0.009	0.05	
Cadmium, Dissolved		ND	ND	
Chromium, Dissolved total		ND	ND	•
Cyanide, Total		0.022	NA	
Lead, Dissolved		0.0023	ND	
Nickel, Dissolved		ND	ND	
Zinc, Dissolved		0.004	ND	••

In samples where total 1,2-dichloroethene has been listed, cis-1,2-dichloroethene is included in that total Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L) Metals reported in milligrams per liter (mg/L).

-- = No PRG assigned.

Bold = Analyte detected greater than the laboratory reporting limit NA = Not analyzed.

ND = Not detected greater than the method detection limit

Table 4
Groundwater Treatment System Flow Summary
Wayne Reclamation & Recycling

	ULY 2004		UGUST 2004		TEMBER 2004		TOBER 2004		EMBER 2004		EMBER 2004
<u>_</u>	FLOW	_	FLOW		FLOW	 	FLOW		FLOW		FLOW
DATE		DATE		DATE		DATE		DATE		DATE	
1	107,280	1	115,344	1	88,322	i	101,664	1	50,256		106,416
2	107,280	ı	115,344	i e	93,312	2	101,664	2	49,558		97,991
3	107,280	3	115,344	3	92,340	3	101,664	3	50,256	3	106,416
4	107,280	4	113,760	4	93,312	4	101,664	4	36,122	4	106,416
5	107,280	5	113,760	5	93,312	5	101,664	5	50,256	5	106,416
6	107,280	6	113,760	6	93,312	6	69,753	6	50,256	6	97,776
7	101,952	7	113,760	7	93,312	7	101,664	7	50,256	7	97,776
8	101,952	8	113,760	8	84,384	8	83,966	8	118,944	8	97,776
9	101,952	9	90,864	9	84,384	9	98,784	9	118,944	9	97,776
10	101,952	10	90,864	10	84,384	10	98,784	10	118,944	10	97,776
11	97,138	11	90,864	11	84,384	11	98,784	11	118,944	11	97,776
12	101,952	12	90,864	12	84,384	12	98,784	12	118,944	12	97,776
13	101,952	13	90,864	13	84,384	13	98,784	13	120,240	13	83,745
14	107,856	14	90,864	14	84,384	14	98,784	14	120,240	14	97,488
15	107,856		90,864	15	86,976	15	57,888	15	113,978	15	97,488
16	107,856	16	79,920		86,976	16	57,767	16	110,387	16	97,488
17	107,856		79,920	17	86,976	17	57,888	17	120,240		97,488
18	107,856		79,920		86,976	18	52,059	18	110,554		97,488
19	107,856		79,920		86,976	19	57,888	19	109,460		97,488
20	118,656		79,920		86,976	20	57,888	20	136,944		94,915
21	118,656		79,920		104,976	21	57,888	21	136,944	21	90,144
22	118,656		79,920		100,894	22	57,888	22	136,944	22	90,144
23	118,656		79,920		100,092	23	27,388	23	125,722	23	90,144
24	118,656		79,920	24	73,265	24	30,384	24	136,944	24	90,144
25	118,656		111,312		104,976	25	30,384	25	136,944	25	90,144
, 26	118,656	26	111,312	26	104,976	26	30,384	26	98,928	26	90,144
27	115,344	27	111,312	27	100,512	27	30,384	27	98,928	27	82,945
28	115,344	28	33,084	28	69,730	28	22,324	28	98,928	28	89,856
29	115,344	29**	0	29	100,512	29	17,471	29	98,928	29	88,670
30	115,344	30**	0	30	90,531	30	30,384	30	78,318	30	89,856
31	115,344	31	46,612			31	30,384			31	89,856
	3,406,978		2,683,792		2,710,229		2,063,048		3,021,250		2,953,723

31 113,344	31 40,012		_ 51	l	31 67,630
3,406,978	2,683,792	2,710,229	2,063,048	3,021,250	2,953,723
109,903	86,574	90,341	66,550	100,708	95,281
44,572	39,911	41,966	42,688	41,759	44,151
	67	65	48	72	67
	3,406,978 109,903	3,406,978 2,683,792 109,903 86,574 44,572 39,911	3,406,978 2,683,792 2,710,229 109,903 86,574 90,341 44,572 39,911 41,966	3,406,978 2,683,792 2,710,229 2,063,048 109,903 86,574 90,341 66,550 44,572 39,911 41,966 42,688	3,406,978 2,683,792 2,710,229 2,063,048 3,021,250 109,903 86,574 90,341 66,550 100,708 44,572 39,911 41,966 42,688 41,759

 Period
 Total Gallons Treated

 6 Months
 16,839,020

 12 Months
 34,034,020

 Since 1995
 229,255,541

Notes:

gpd = Gallons per day.

Av. = Average.

gpm = Gallons per minute.

** System off for annual maintenance.

Av. Flow is calculated by dividing the total monthly flow by the total number of operational days for the given month.

Table 5
Summary of Monitoring Well Construction Details
Wayne Reclamation & Recycling

	TOIC	Grd Surface	Total	Well	Screen	Bottom Screen	Top Screen	Slot			
Well	Elevations	Elevation	Depth	Diameter	Length	Elevation	Elevation	Size	General	Well	Installation
Identification	2001 - 2003	(msl)	(bgs)	(inches)	(feet)	(msl)	(msi)	(inches)	Location	Installer	Date
MW-1D	826.08	823.81	150.00	2.00	10.00	673.81	683.81	0.010	Southeast Area	Montgomery Watson	June-96
MW-2S	825.34	822.90	23.00	2.00	10.00	799.90	809.90	0.010	Southeast Area	Warzyn	February-88
MW-3S	824.06	820.82	20.00	2.00	10.00	800.82	810.82	0.010	Southeast Area	Warzyn	February-88
MW-4S	843.06	840.04	37.00	2.00	10.00	803.04	813.04	0.010	RW-4 Area	Warzyn	February-88
MW-5S	833.02	830.19	25.00	2.00	10.00	805.19	815.19	0.010	Cemetery	Warzyn	February-88
MW-7S	836.12	833.70	31.00	2.00	10.00	802.70	812.70	0.010	RW-4 area	Warzyn	February-88
MW-8S	835.52	832.11	30.00	2.00	10.00	802.11	812.11	0.010	AST area	Warzyn	February-88
MW-8D	834.11	831.57	150.00	2.00	10.00	681.57	691.57	0.010	AST Area	Warzyn	August-88
MW-9S	825.44	822.43	20.00	2.00	10.00	802.43	812.43	0.010	AST Area	Warzyn	February-88
MW-10S	823.15	821.66	16.00	2.00	10.00	805.66	815.66	0.010	Southeast Area	Warzyn	February-88
MW-11S	825.08	823.26	34.00	2.00	10.00	789.26	799.26	0.010	Southeast Area	Warzyn	February-88
MW-13S (1)	826.40	823.58	25.00	2.00	10.00	798.58	808.58	0.010	Southeast Area	Warzyn	July-88
MW-13D (1)	826.44	823.86	145.00	2.00	10.00	678.86	688.86	0.010	Southeast Area	Warzyn	July-88
MW-14S	821.30	819.11	18.90	2.00	10.00	800.21	810.21	0.010	AST Area	Warzyn	July-88
MW-15S	827.64	825.00	25.00	2.00	10.00	800.00	810.00	0.010	AST Area	Warzyn	July-90
MW-16S	827.41	825.23	25.00	2.00	10.00	800.23	810.23	0.010	AST Area	Warzyn	July-90
MW-17S	826.56	824.66	40.00	2.00	10.00	784.66	794.66	0.007	AST Area	Warzyn	August-92
MW-18S	824.16	821.54	32.50	2.00	10.00	789.04	799.04	0.007	AST Area	Warzyn	July-92
MW-19S (1)	832.07	830.20	25.00	2.00	10.00	805.20	815.20	0.010	AST Area	Warzyn	July-92

TOIC = Top of inner well casing; msl = above mean sea level; bgs = below ground surface; AST = Aboveground Storage Tank; MW = monitoring well; RW = recovery well.

Depth to groundwater measured in feet below TOIC.

Prior to 2001, TOIC elevations based on Ayres-Lewis-Norris-May, Inc. survey of 10/10/1997.

TOIC and surface elevations based on Benchmark Surveying, Inc. surveys of 7/2/2001, 10/25/2001, and 5/1/2003, except where noted

⁽¹⁾ TOIC elevations based on InSite, Inc. survey of 7/2/2002, following repair of those wells.

Table 5
Summary of Monitoring Well Construction Details
Wayne Reclamation & Recycling

Well Identification	TOIC Elevations 2001 - 2003	Grd Surface Elevation (msl)	Total Depth (bgs)	Well Diameter (inches)	Screen Length (feet)	Bottom Screen Elevation (msl)	Top Screen Elevation (msl)	Slot Size (inches)	General Location	Well Installer	Installation Date
P-1	834.28	832.29	28.00	2.00	10.00	804.29	814.29	0.010	RW-4 Area	Warzyn	July-88
P-2	825.49	822.90	18.00	2.00	10.00	804.90	814.90	0.010	Southeast Area	Warzyn	July-88
P-3	823.48	820.82	20.00	2.00	10.00	800.82	810.82	0.010	Southeast Area	Warzyn	July-88
P-4	822.67	820.01	15.00	2.00	10.00	805.01	815.01	0.010	AST Area	Warzyn	July-88
MW-83AS (2)	826.13	824.39	28.22	2.00	5.00	796.17	801.17		Southeast Area	Peerless - Midwest	May-83
MW-83AD (2)	826.15	824.36	46.95	2.00	4.00	777.41	781.41		Southeast Area	Peerless - Midwest	May-83
MW-83B	840.55	838.30	60.00	2.00	9.70	778.30	788.00	0.010	Southeast Area	Montgomery Watson	June-96
MW-83DS (2)	825.21	823.75	36.40	2.00	2.00	787.35	789.35	-	Southeast Area	Peerless - Midwest	May-83
MW-83DD (2)	825.30	823.82	52.93	2.00	0.50	770.89	771.39	-	Southeast Area	Peerless - Midwest	May-83
GM-1 ⁽¹⁾	841.08	838.98	34.84	2.00	-	804.14	•	-	Landfill	G&M	-
GM-2 (3)	833.30	830.51	38.86	2.00	•	791.65	<u>-</u>	-	Landfill	G&M	-
GM-3 ⁽¹⁾	822.87	820.65	27.75	2.00	-	792.90	-	-	Landfill	G&M	
GM-4 ⁽³⁾	827.40	824.11	27.95	2.00	-	796.16	-	-	Landfill	G&M	-
PZ-1 ⁽⁴⁾	823.66	821.00	26.00	2.00	5.00	795.00	800.00	0.010	AST Area	MWH	December-02
PZ-2 ⁽⁴⁾	825.73	823.80	17.00	2.00	5.00	806.80	811.80	0.010	Southeast Area	MWH	December-02
PZ-3 ⁽⁴⁾	826.46	823.10	20.00	2.00	5.00	803.10	808.10	0.010	Southeast Area	MWH	December-02
PZ-4 ⁽⁴⁾	825.52	821.45	17.00	2.00	5.00	804.45	809.45	0.010	RW-5 Area (Landfill)	мwн	December-02

TOIC = Top of inner well casing; msl = above mean sea level; bgs = below ground surface; AST = Aboveground Storage Tank; MW = monitoring well; RW = recovery well; P and PZ = piezometer.

Depth to groundwater measured in feet below TOIC.

Prior to 2001, TOIC elevations based on Ayres-Lewis-Norris-May, Inc. survey of 10/10/1997.

TOIC and surface elevations based on Benchmark Surveying, Inc. surveys of 7/2/2001, 10/25/2001, and 5/1/2003, except where noted.

Total depth and screen length revised based on InSite, Inc. field documentation study on 7/17/02.

⁽ii) Groundwater elevations estimated for GM-1 through GM-4 for April 2001 reading; that same value is used for April 2003.

⁽⁴⁾ Groundwater elevations from first round of measurements following piezometer installation, on 1/14/2003.

^{- =} No data available.

Table 6
Summary of Groundwater Elevations
Wayne Reclamation & Recycling

	Date:	7/30/04	8/24/04	9/22/04	10/18/04	11/22/04	12/17/04
Well Identification	TOIC Elevation 2001 - 2003	Groui	ndwater Elevatio	n with Air Spargi	ng System On (fe	et above mean se	a level)
MW-ID	826.08				808.05	i	
MW-2S	825.34	808.01	808.69	808.11	807.54	807.46	807.96
MW-3S	824.06	808.75	809.17	808.20	807.58	807.48	807.91
MW-4S	843.06				810.27		
MW-5S	833.02				811.47		•
MW-7S	836.12				810.19		
MW-8S	835.52				810.39		
MW-8D	834.11				807.85		
MW-9S	825.44	810.80	810.54	810.86	809.87	809.70	810.64
MW-10S	823.15	808.26	809.66	808.56	807.50	807.47	808.13
MW-11S	825.08	808.24	809.10	807.51	807.81	807.80	807.93
MW-13S	826.40	811.09	811.14	810.91	811.02	810.99	811.46
MW-13D (1)	826.44				808.48		
MW-14S	821.30				810.13		
MW-15S	827.64				810.27		
MW-16S	827.41				810.32		
MW-17S	826.56	•			810.81		
MW-18S	824.16				810.26		
MW-19S (I)	832.07				810.58		
P-1	834.28	•			810.34		
P-2	825.49				810.24		
P-3	823.48				810.14		
P-4	822.67				810.08		
MW-83AS	826.13	807.98	808.68	808.09	807.49	807.39	807.94
MW-83AD	826.15	808.98	809.96	808.59	808.54	809.07	808.92
MW-83B	840.55				809.66		
MW-83DS	825.21	810.17	810.76	809.84	809.89	810.15	810.11
MW-83DD	825.30	•••			810.15		
GM-1	841.08						
GM-2	833.30						
GM-3	822.87	810.82	810.72	810.51	810.58	810.05	811.38
GM-4	827.40	810.62	810.42	810.27	810.36	809.59	811.13
PZ-I	823.66	810.74	810.52	810.75	809.81	809.69	810.59
PZ-2	825.73	811.08	811.18	810.89	810.96	810.97	811.44
PZ-3	826.46	810.84	811.00	810.61	810.68	810.65	811.10
PZ-4	825.52	810.81	810.63	810.44	810.49	809.84	811.51
RW-3	822.71	803.62	805.69	803.58	796.33	808.97	800.27
RW-5	823.94	807.38	807.28	807.85	808.02	801.53	806.67

TOIC = Top of inner well casing; MW = monitoring well; RW = recovery well; P and PZ = piezometer.

TOIC and surface elevations based on Benchmark Surveying, Inc. surveys of 7/2/2001, 10/25/2001, and 5/1/2003, except where noted.

⁽¹⁾ TOIC elevations based on InSite, Inc. survey of 7/2/2002, following repair of those wells.

^{--- =} No data available.

Table 7

Columbia City Municipal Water Supply Well Results - Volatile Organic Compounds and Polychlorinated Biphenyls

Wayne Reclamation & Recycling

Date Sampled	10/14	/1998	12/9/	1999	10/3	/2000	10/31	/2001	10/23	/2002	10/16	/2003	10/22	2/2004
CONSTITUENT	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8	PW _r 7	PW-8	PW-7	PW-8
YOCs (µg/L)										!		1		
Benzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	<10	<10	<10	<10	<10	<10	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
2-Butanone (MEK)	<50	<50	<50	<50	<50	<50	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<20	<20
Carbon Disulfide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<20	<20
Carbon Tetrachloride	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorodibromomethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Chloroethane	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
Chloroform	<5.0	<5.0	<20	<20	<20	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	<10	<10	<10	<10	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
1,1-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichlororethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Hexanone	<50	<50	<50	<50	<50	<50	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<20	<20
Methylene Chloride	<10	<10	<10	<10	<10	<01>	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Methyl-2-pentanone (MIBK)	<50	<50	<50	<50	<50	<50	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<20	<20
Styrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	<2	<2	<5.0	<5.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes, Total	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
PCBs (µg/L)		ľ		ľ	ľ	ĺ				' i				ĺ
Aroclor 1016	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	<1	<1	NA	_NA	NA I	NA	NA	NA _	NA	NA.	NA	NA	NA	NA

Volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs) reported in micrograms per liter ($\mu g/L$). PW = Public well.

October 2002 and 2003 data validated to Level IV; no flags were required for the data in this table collected on those dates.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

< = Not detected above the reporting limit provided.</p>
NA = Not analyzed.

Table 8 Columbia City Municipal Water Supply Well Results - Metals and Inorganics Wayne Reclamation & Recycling

Date Sampled	10/14	1/1998	12/9	/1999	10/3	/2000	10/3	1/2001	10/23	3/2002	10/10	5/2003	10/2	2/2004
CONSTITUENT	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8	PW-7	PW-8
Total Metals (mg/L)						1					_			
Aluminum	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	<0.200	<0.200
Antimony	<0.005	<0.005	<0.005	<0.005	<0.026	<0.026	<0.0010	<0.0010	<0.0010	<0.0010	<0.100	<0.100	<0.006	<0.006
Arsenic	0.0083	0.0071	0.0091	0.0056	<0.028	<0.028	0.0087	0.0062	0.0087	0.0066	<0.100	<0.100	<0.010	<0.010
Barium	0.15	0.13	0.12	0.11	0.15	0.13	0.161	0.138	0.150	0.132	0.155	0.135	0.144	0.138
Beryllium	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.005	<0.004	<0.004
Cadmium	<0.005	<0.005	<0.010	<0.010	<0.005	<0.005	<0.0010	<0.0010	<0.0010	<0.0010	<0.030	<0.030	<0.005	<0.005
Calcium	86	83	70	67	87	80	80.2	75.8	89.8 (J)	92.9	95.0	84.5	79	80.4
Chromium	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.040	<0.040	<0.010	<0.010
Cobalt	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.020	<0.005	<0.005
Соррег	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.020	<0.020	<0.005	<0.005
Iron	2	1.6	1.6	1.4	1.8	1.5	1.82	1.5	1.85	1.66	2.15	1.67	1.79	1.6
Lead	<0.005	<0.005	<0.005	<0.005	<0.018	<0.018	<0.0010	<0.0010	<0.0010	<0.0010	<0.080	<0.080	<0.015	<0.015
Magnesium	35	36	28	29	34	34	32.1	32.8	33.7 (J)	36.7	38.1	36.0	30.9	34.1
Manganese	0.16	0.14	0.11	0.12	0.12	0.13	0.109	0.114	0.112	0.119	0.137	0.143	0.111	0.134
Mercury	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.002
Molybdenum	0.023	0.031	0.025	0.031	<0.020	0.021	<0.020	0.021	NA	NA	0.036	0.043	NA	NA
Nickel	<0.020	<0.020	<0.020	<0.020	<0.002	<0.0068	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010
Potassium	1.4	1.5	<5.0	<5.0	<5.0	<5.0	1.6	1.8	1.8	2.4	1.90	2.00	1.59	1.87
Selenium	<0.005	<0.005	<0.005	<0.005	<0.036	<0.005	<0.20	<0.20	<0.0050	<0.0050	<0.100	<0.100	<0.050	<0.050
Silver	<0.020	<0.020	<0.020	<0.020	<0.005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.040	<0.040	<0.010	<0.010
Sodium	13	17	13	13	14	17	14	15.8	12.8	17.7	16.1	18.4	12.8	17
Thallium	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0100	<0.0100	<0.0010	<0.0010	<0.010	<0.010	<0.002	<0.002
Vanadium	<0.02	<0.02	<0.020	<0.020	<0.02	<0.02	<0.050	<0.050	<0.0050	<0.0050	<0.050	<0.050	<0.010	<0.010
Zinc	0.024	<0.020	<0.020	<0.020	<0.020	0.04	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.020
Inorganics/Wet Chemistry (m	g/L)													}
Biological Oxygen Demand	<5	<5	NA	NA	NA	NA	NA	NA						
Chemical Oxygen Demand	<10	<10	NA	NA	NA	NA	NA	NA						
Total Cyanide	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Oil & Grease	<5	<5	NA	NA	NA	NA	NA	NA						
Total Phenols	<0.010	<0.010	NA	NA	NA	NA	NA	NA						
Total Phosphorus	<0.05	<0.05	NA	NA	NA	NA	NA	NA						
Surfactants (MBAs)	0.10	<0.1	NA	NA	NA	NA	NA	NA						
Total Suspended Solids	<5	<5	NA	NA	NA	NA	NA	NA .						
Nitrite Nitrogen	0.021	0.022	NA	NA	NA	NA	NA	NA						
Nitrate Nitrogen	<0.02	<0.02	NA	NA	NA	NA	NA	NA						
Ammonia Nitrogen	0.38	0.41	NA	NA	NA	NA	NA	NA						
Total Kjeldahl Nitrogen	0.64	0.73	NA	NA	NA	NA	NA	NA NA	NA NA	NA	NA	NA_	NA	NA

Total metals and inorganic/wet chemistry parameters reported in milligrams per liter (mg/L).

PW = Public well.

< = Not detected above the reporting limit provided.</p>
Bold = Analyte detected above the laboratory reporting limit.

NA = Not analyzed.

October 2002 data was validated to Level IV; (J) = estimated.

October 2003 data validated to Level IV; no flags were required for the data in this table collected on that date.

October 2004 data validated to Level II; no flags were required for the data in this table collected on that date.

Table 9
Hydrological Assessment Groundwater and Surface Water Elevation Data, January through June 2004
Wayne Reclamation & Recycling

Location	Approximate Distance from River Bank	River Bottom Elevation (feet msl)	Groundwater or Surface Water Elevation (feet msl)												
	(feet)	5/1/2003	7/30/2004		8/24/2004		9/22/2004		10/18/2004		11/2	22/2004	12/1	7/2004	
RW-3 Area (Aboveground Storage Tank Area - C	ross-Section A-	A')													
Groundwater Elevation at RW-3	75	-	803.62	(Pump running, 28 gpm)	805.69	(Pump running, 20 gpm)	803.58	(Pump running, 23 gpm)	796.33	(Pump running, 27 gpm)	808.97	(Pump off)	800.27	(Pump running, 26 gpm)	
Groundwater Elevation at MW-9S	45	-	810.80		810.54		810.86		809.87		809.70		810.64		
Groundwater Elevation at PZ-1	25	-	810.74		810.52		810.75		809.81		809.69		810.59		
River Surface Elevation Adjacent to PZ-1 (G-1)		-	810.30		810.38		810.09		810.20		810.44		811.07		
Deepest River Bottom Elevation Adjacent to PZ-1		808.82	_		•		••								
MW-13S Area (Southeast Area - Cross-Section B	-B')														
Groundwater Elevation at PZ-2	50		811.08		811.18		810.89		810.96		810.97		811.44	~ 	
Groundwater Elevation at MW-13S	25		811.09	,	811.14		810.91		811.02		810.99		811.46		
River Surface Elevation Adjacent to PZ-2 (G-2)	_	-	811.15		811.25		811.01		811.30		811.28		811.65		
Deepest River Bottom Elevation Adjacent to PZ-2		810.10			••										
MW-83DS Area (Southeast Area - Cross-Section	C-C')													-	
Groundwater Elevation at MW-83DS	60	_	810.17		810.76		809.84		809.89		810.15		810.11		
Groundwater Elevation at PZ-3	50		810.84		811.00	- :	810.61		810.68		810.65		811.10		
River Surface Elevation Adjacent to PZ-3 (G-3)		-	811.18		811.35		811.03		811.35		811.36		811.83		
Deepest River Bottom Elevation Adjacent to PZ-3		809.91	-						-						
RW-5 Area (South of Landfill - Cross-Section D-	D')											_ _			
Groundwater Elevation at GM-4	160		810.62		810.42		810.27		810.36		809.59		811.13		
Groundwater Elevation at RW-5	85		807.38	(Pump running, 13 gpm)	807.28	(Pump running, 20 gpm)	807.85	(Pump running, 12 gpm)	808.02	(Pump running, 9 gpm)	801.53	(Pump running, 20 gpm)	806.67	(Pump running (4 gpm)	
Groundwater Elevation at PZ-4	50	-	810.81		810.63		810.44		810.49		809.84		811.51		
Groundwater Elevation at GM-3	25		810.82		810.72		810.51		810.58		810.05		811.38		
River Surface Elevation Adjacent to PZ-4 (G-4)	-	-	811.24		811.33		811.03		811.35		811.35		811.91		
Deepest River Bottom Elevation Adjacent to PZ-4		810.21			_										

RW = Recovery well.
msl = Above mean sea level.

gpm = Gallons per minute.
-- = Does not apply.

PZ = Piezometer.

MW = Monitoring well.

GM = Landfill monitoring well.

G = Gauge point.

Table 10 **Recovery Well Analytical Results** Wayne Reclamation & Recycling

	RECOVERY WELL RW-1 (Aboveground Storage Tank Area)												
CONSTITUENT Date Sampled	8/27/1996	11/6/1996	6/11/1997	11/18/1997	4/21/1998	11/1/2001	10/25/2002	12/22/2003	10/22/2004	(μg/L)			
VOCs (µg/L)					_								
Acetone	NA	NA	NA	NA	ND	ND	ND	<20.0	<20.0	3,650			
Bromomethane	ND	ND	ND	ND	ND	ND	ND	NA	<2.0				
n-Butylbenzene	ND	NA	NA	NA	ND	ND	ND	<1.0	<1.0				
2-Butanone (MEK)	NA	NA	NA	NA	NA	NA	ND	<12.5	<20.0				
Carbon Disulfide	NA	NA	NA	NA	ND	ND	ND	<1.0	<20.0	768			
Chloroethane	ND	2.4	2.2	3.7	ND	ND	ND	<5.0	2.4				
1,1-Dichloroethane	170	180	110	190	140	103	11	73.7	100	973			
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	<1.0	< 1.0	0.0167			
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0				
cis-1,2-Dichloroethene					. 3.5.					70			
trans-1,2-Dichloroethene	ND	1.4	1.4	2.9	ND	1.3	13	<1.0	<1.0	100			
1,2-Dichloroethene, Total						120.3		84.6	84	(170)			
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25			
Chloroform	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	0.274			
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	ND	ND	ND	<12.5	<20.0	487			
1,1,1-Trichloroethane	22	23	20	31	19	12.7	12.7	14.7	17	200			
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	< 1.0	<1.0	0.314			
Dibromomethane	ND	NA	NA	NA	ND	ND	ND	<1.0	<1.0				
Tetrachloroethene	ND	ND	ND	ND	ND	ND	, ND	<1.0	<1.0	1.43			
Trichloroethene	ND	ND	ND	ND	ND	2.4			: :	2.54			
1,2,4-Trimethylbenzene	NA	NA	NA	NA	ND	ND	ND	<1.0	NA				
Vinyl Chloride		ND				,		<i>3.</i>	1.5	0.0283			
Benzene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617			
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700			
Toluene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000			
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828			

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date.

October 2003 and 2004 data validated to Level II; no flags were required for the data in this table collected on those dates.

ND = Not detected above the method detection limit.

NA = Not analyzed.

Bold = Analyte detected above laboratory reporting limit.

Italics = Reporting limit above the corresponding PRG.

^{-- =} No PRG assigned.

< = Not detected above the reporting limit provided.

No data was collected during the October 1998 sampling event.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

		RECO	OVERY WELL R	W-2 (Abovegrou	nd Storage Tank	Area)		PRG
CONSTITUENT Date Sampled	8/27/1996	11/6/1996	6/11/1997	11/18/1997	4/21/1998	11/1/2001	10/25/2002	(μg/L)
VOCs (µg/L)	-							
Acetone	NA	NA	NA	NA	ND	ND	ND	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	
n-Butylbenzene	ND	NA	NA	NA	ND	ND	ND	
2-Butanone (MEK)	NA	NA	NA	NA	NA	NA	ND	
Carbon Disulfide	NA	NA	NA	NA	ND	ND	ND	768
Chloroethane	ND	2.6	2.2	ND	ND	ND	ND	
1,1-Dichloroethane	8.1	160	110	21	52	18.2	19	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	6.6			53		45	55	70
trans-1,2-Dichloroethene	ND	1.6	1.4	ND	ND	1.7	ND	100
1,2-Dichloroethene, Total	6.6	151.6		53	78	46.7	55	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	0.274
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	ND	ND	ND	487
1,1,1-Trichloroethane	ND	23.0	20.0	ND	6.1	4.4	ND	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	0.314
Dibromomethane	ND	NA	NA	NA	ND	ND	ND	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	1.43
Trichloroethene	ND	ND	ND	ND	ND	1.2	ND	2.54
1,2,4-Trimethylbenzene	NA	NA	NA	NA	ND	ND	ND	
Vinyl Chloride								0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	700
Toluene	ND	ND	ND	ND	ND	ND	ND	1,000
Xylenes, Total	ND	ND	ND	ND	ND	. ND	ND -	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

ND = Not detected above the method detection limit.

NA = Not analyzed.

No data was collected during the October 1998 sampling event.

October 2002 data was validated to Level IV; no flags were required for the data in this table collected on that date.

Bold = Analyte detected above laboratory reporting limit. Shaded = Analyte detected above the corresponding PRG. -- = No PRG assigned.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

			RE	COVERY WE	LL RW-3 (A	boveground St	torage Tank Ar	rea)			PRG
CONSTITUENT Date Sampled	8/27/1996	11/6/1996	6/12/1997	11/18/1997	4/21/1998	8/18/1999	10/19/1999	11/1/2001	12/22/2003	10/22/2004	(μg/L)
VOCs (µg/L)											
Acetone	NA	NA	NA	NA	ND	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	NA	NA	NA	NA	NA	ND	NA	NA	<12.5	<20.0	
Carbon Disulfide	NA	NA	NA	NA	ND	ND	ND	ND	<1.0	<20.0	768
Chloroethane	ND	NA	ND	ND	ND	ND	ND	ND	< 5.0	<2.0	
1,1-Dichloroethane	ND	3.1	2.7	4.9	ND	ND	ND	9.4	3.6	3.2	973
l,l-Dichloroethene	ND	ND	ND	1.9	ND	ND	ND	ND	< 1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene							94			1,100	70
trans-1,2-Dichloroethene	10	5.9	6.9	15	11	ND	5.1	8.6	7.1	5.0	100
1,2-Dichloroethene, Total						150					(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	ND	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane	ND	ND	ND	1.7	ND	ND	ND	4.4	4.9	5.3	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	ND	NA	NA	NA	ND	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene								7 kg 11			2.54
1,2,4-Trimethylbenzene	NA	NA	NA	NA	ND	ND	ND	ND	<1.0	NA	
Vinyl Chloride											0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

No data was collected during the October 1998 sampling event.

October 2003 and 2004 data validated to Level II; no flags were required for the data in this table collected on those dates.

ND = Not detected above the method detection limit.

NA = Not analyzed.

Bold = Analyte detected above laboratory reporting limit.

Italics = Reporting limit above the corresponding PRG.

^{-- =} No PRG assigned.

< = Not detected above the reporting limit provided.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

			RECOVERY	WELL RW-4 (Monitoring We	lls MW-4S and	MW-7S Area)			PRG
CONSTITUENT Date Sampled	8/27/1996	11/6/1996	6/12/1997	11/18/1997	4/21/1998	11/2/2001	4/23/2002	12/22/2003_	10/22/2004	(µg/L)
VOCs (µg/L)										
Acetone	NA	NA	NA	NA	ND	ND	ND	<20.0	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	ND	NA	NA	NA	ND	ND	ND	<1.0	<1.0	
2-Butanone (MEK)	NA	NA	NA	NA	NA	NA	NA	<12.5	<20.0	
Carbon Disulfide	NA	NA	NA	NA	ND	ND	ND	<1.0	<20.0	768
Chloroethane	ND	NA	ND	ND	ND	ND	ND	<5.0	<2.0	
1,1-Dichloroethane	ND	2.9	1.5	2.6	ND	13.3	1.2	1.5	2.7	973
1,1-Dichloroethene	ND	ND	ND	ND	ND	2.3	ND	<1.0	<1.0	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	
cis-1,2-Dichloroethene						- 12		13	Ü	70
trans-1,2-Dichloroethene	27	26	18	24	12	23.2	16.4	13.8	25	100
1,2-Dichloroethene, Total			,		y.,	V 92-7-3	163.4			(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	<1.0	< 1.0	0.274
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	ND	ND	ND	<12.5	<20.0	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.314
Dibromomethane	ND	NA	NA	NA	ND	ND	ND	<1.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1.43
Trichloroethene	ND	ND	ND	ND	ND	(A),	ND	<1.0	<1.0	2.54
1,2,4-Trimethylbenzene	NA	NA	NA	NA	ND	ND	ND	<1.0	NA]
Vinyl Chloride	ND	ND	ND	ND	ND	. 	ND	<1.0		0.0283
Benzene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	700
Toluene	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	<1.0	<1.0	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

No data was collected during the October 1998 sampling event.

October 2003 and 2004 data validated to Level II; no flags were required for the data in this table collected on those dates.

ND = Not detected above the method detection limit.

NA = Not analyzed.

Bold = Analyte detected above laboratory reporting limit.

Italics = Reporting limit above the corresponding PRG.

^{-- =} No PRG assigned.

< = Not detected above the reporting limit provided.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

		_		RECOVERY	WELL RW-5	(Southeast of	the Landfill)				PRG
CONSTITUENT Date Sampled	8/27/1996	11/6/1996	6/12/1997	11/18/1997	4/21/1998	11/2/2001	4/23/2002	10/25/2002	12/22/2003	10/22/2004	(μg/L)
VOCs (µg/L)								<u>, _ , _</u>			
Acetone	NA	NA	NA	NA	ND	ND	ND	ND	<100	<20.0	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	NA	<2.0	
n-Butylbenzene	ND	NA	NA	NA	ND	ND	ND	ND	< 5.0	<1.0	
2-Butanone (MEK)	NA	NA	NA	NA	NA	NA	NA	NA	<62	<20.0	
Carbon Disulfide	NA	NA	NA	NA	ND	ND	ND	ND	<5.0	<20.0	768
Chloroethane	ND	NA	ND	ND	ND	ND	ND	ND	<25	<2.0	
1,1-Dichloroethane	ND	ND	1.1	4.0	ND	7.1	4.7	5.7	<5.0	4.7	973
1,1-Dichloroethene	ND	ND	ND	ND	ND.	2.9	2.2	5.2	< 5.0	و پرگو شخکی	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<1.0	
cis-1,2-Dichloroethene				Øy,	' ما آمن ،	ι, ψ̂ι,	22	. CC		i i i	70
trans-1,2-Dichloroethene	20	26	53	2.74				96	· (1*	63	100
1,2-Dichloroethene, Total							ير شو در	1		. Pakt	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	< 5.0	<1.0	1.25
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	< 5.0	<1.0	0.274
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	ND	ND	ND	ND	<62	<20	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	4.0	3.1	ND	< 5.0	1.2	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	< 5.0	<1.0	0.314
Dibromomethane	ND	NA	NA	NA	ND	ND	ND	ND	< 5.0	<1.0	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	< 5.0	<1.0	1.43
Trichloroethene	ND	1.8	ND			2.3	100	- 55		-UAU	2.54
1,2,4-Trimethylbenzene	NA	NA	NA	NA	ND	ND	ND	ND	<5.0	NA	
Vinyl Chloride		14.			441d -	140	7.4			39h	0.0283
Benzene	ND	ND	ND	ND	ND				< 5.0		0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<1.0	700
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	<5.0	<1.0	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND	<u>N</u> D	ND	<5.0	<1.0	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

October 2002 data validated to Level IV; no flags were required for the data in this table collected on that date.

October 2003 data validated to Level II; no flags were required for the data in this table collected on that date.

October 2004 data validated to Level II; (J) = estimated.

No data was collected during the October 1998 sampling event.

ND = Not detected above the method detection limit.

NA = Not analyzed.

Bold = Analyte detected above laboratory reporting limit.

Italics = Reporting limit above the corresponding PRG.

^{-- =} No PRG assigned.

< = Not detected above the reporting limit provided.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

		R	RECOVERY WELL R	W-6 (Southeast Are	a)		PRG
CONSTITUENT Date Samp	ed 8/27/1996	11/6/1996	6/12/1997	11/18/97	4/21/1998	11/2/2001	(μg/L)
VOCs (µg/L)				" "" " = "			
Acetone	NA	NA	NA	NA	ND	ND	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	
n-Butylbenzene	ND	NA	NA	NA	ND	ND	
2-Butanone (MEK)	NA	NA	NA	NA	NA	NA	
Carbon Disulfide	NA	NA	NA	NA	ND	ND	768
Chloroethane	ND	NA	7.5	ND	ND	ND	
1,1-Dichloroethane	ND	ND	21	ND	ND	ND	973
1,1-Dichloroethene	ND	ND	2.5	ND	ND	ND	0.0167
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	ND	ND		1.0	5.7	43.1	70
trans-1,2-Dichloroethene	ND	ND	53	ND	ND	ND	100
1,2-Dichloroethene, Total	ND	ND		1.0	5.7	43.1	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	1.25
Chloroform	ND	ND	ND	ND	ND	ND	0.274
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	ND	ND	487
1,1,1-Trichloroethane	ND	ND	3.1	ND	ND	ND	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	0.314
Dibromomethane	ND	NA	NA	NA	ND	ND	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	1.43
Trichloroethene	ND	ND		ND	ND	ND	2.54
1,2,4-Trimethylbenzene	NA	NA	NA	NA	ND	ND	
Vinyl Chloride	ND	ND		1.	ND	44	0.0283
Benzene	ND	ND	ND	ND	ND	ND	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	700
Toluene	ND	ND	ND	ND	ND	ND	1,000
Xylenes, Total	ND	ND	-ND	ND	ND	ND -	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

ND = Not detected above the method detection limit.

NA = Not analyzed.

No data was collected during the October 1998 sampling event.

Bold = Analyte detected above laboratory reporting limit. Shaded = Analyte detected above the corresponding PRG. -- = No PRG assigned.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

			R	ECOVERY WELL I	RW-7 (Southeast Area	a)		PRG
CONSTITUENT Date Sa	mpled	8/27/1996	11/6/1996	6/12/1997	11/18/1997	4/21/1998	11/2/2001	(μg/L)
VOCs (µg/L)						·		
Acetone	Í	NA	NA	NA	NA	ND	ND	3,650
Bromomethane		ND	ND	ND	ND	ND	ND	
n-Butylbenzene		ND	NA	NA	NA	ND	ND	
2-Butanone (MEK)		NA	NA	NA	NA	NA	NA	
Carbon Disulfide		NA	NA	NA	NA	ND	ND	768
Chloroethane		ND	NA	ND	ND	ND	ND	1
1,1-Dichloroethane	l l	ND	ND	ND	ND	ND	1.7	973
1,1-Dichloroethene		ND	ND	ND	ND	ND		0.0167
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene		2.4			. 2	ND		70
trans-1,2-Dichloroethene		ND	43	2.2	12	ND	7.1	100
1,2-Dichloroethene, Total		2.4	,	102.2	* ·· , ·	ND	والهود	(170)
1,2-Dichloropropane		ND		ND		ND	ND	1.25
Chloroform		ND	ND	ND	ND	ND	ND	0.274
4-Methyl-2-pentanone (MIBK)		NA	NA	NA	NA	ND	ND	487
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	200
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	0.314
Dibromomethane		ND	NA	NA	NA	ND	ND	
Tetrachloroethene		ND	1.0	ND	ND	ND	ND	1.43
Trichloroethene	1	1.7			N.54	No.	10	2.54
1,2,4-Trimethylbenzene		NA	NA	NA	NA	ND	ND]
Vinyl Chloride		ND	ND	ND				0.0283
Benzene	1	ND	ND	ND	ND	ND	ND	0.617
Ethylbenzene	- 1	ND	ND	ND	ND	ND	ND	700
Toluene		ND	ND	ND	ND	ND	ND	1,000
Xylenes, Total	J	ND	ND	ND	ND	ND	ND -	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

ND = Not detected above the method detection limit.

NA = Not analyzed.

No data was collected during the October 1998 sampling event.

Bold = Analyte detected above laboratory reporting limit.

Shaded = Analyte detected above the corresponding PRG.

-- = No PRG assigned.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

<u></u>		R	ECOVERY WELL I	RW-8 (Southeast Area)		PRG
CONSTITUENT Date Sampled	8/27/1996	11/6/1996	6/12/1997	11/18/1997	4/21/1998	11/2/2001	(μg/L)
VOCs (μg/L)					-		
Acetone	NA	NA	NA	NA	ND	ND	3,650
Bromomethane	ND	ND	ND	ND	ND	ND	
n-Butylbenzene	ND	NA	NA	NA	ND	ND	
2-Butanone (MEK)	NA	NA	NA	NA	NA	NA	
Carbon Disulfide	NA	NA	NA	NA	ND	ND	768
Chloroethane	ND	NA	3.6	2.1	ND	ND	
1,1-Dichloroethane	ND	11	19	29	ND	110	973
1,1-Dichloroethene	ND				ND	ij.,	0.0167
1,2-Dichloroethane	ND	1,400	ND	ND	ND	ND	
cis-1,2-Dichloroethene						150	70
trans-1,2-Dichloroethene	66	ND	42	44	ND		100
1,2-Dichloroethene, Total					1.5	1440.	(170)
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	1.25
Chloroform	ND	ND	ND	ND	ND	ND	0.274
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	NA	ND	ND	487
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	200
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	0.314
Dibromomethane	ND	NA	NA	NA	ND	ND	
Tetrachloroethene	ND	ND	ND	ND	ND	ND	1.43
Trichloroethene				3 L		. 2	2.54
1,2,4-Trimethylbenzene	NA	NA	NA	NA	ND	ND	
Vinyl Chloride					ND		0.0283
Benzene	ND	ND	ND	ND	ND	ND	0.617
Ethylbenzene	ND	ND	ND	ND	ND	ND	700
Toluene	ND	ND	ND	ND	ND .	ND	1,000
Xylenes, Total	ND	ND	ND	ND	ND	ND -	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

ND = Not detected above the method detection limit.

NA = Not analyzed.

No data was collected during the October 1998 sampling event.

Bold = Analyte detected above laboratory reporting limit. Shaded = Analyte detected above the corresponding PRG. -- = No PRG assigned.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

	L		R	RECOVERY WELL I	RW-9 (Southeast Area	n)		PRG
CONSTITUENT Date S	ampled	8/27/1996	11/6/1996	6/12/1997	11/18/1997	4/21/1998	11/2/2001	(μg/L)
VOCs (µg/L)								
Acetone		NA	NA	NA	NA	ND	ND	3,650
Bromomethane		ND	ND	ND	ND	ND	ND	[
n-Butylbenzene		ND	NA	NA	NA	ND	ND	
2-Butanone (MEK)		NA	NA	NA	NA	NA	NA	
Carbon Disulfide		NA	NA	NA	NA	ND	ND	768
Chloroethane	i i	ND	NA	3.3	ND	ND	ND	
1,1-Dichloroethane		1.3	3.3	1.2	1.9	ND	3.0	973
1,1-Dichloroethene		ND				ND		0.0167
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene						t	337	70
trans-1,2-Dichloroethene		3	19	32	17	61	32.6	100
1,2-Dichloroethene, Total						4.		(170)
1,2-Dichloropropane		ND	ND	ND	ND	ND		1.25
Chloroform	ł	ND	ND	ND	ND	ND	ND	0.274
4-Methyl-2-pentanone (MIBK))	NA	NA	NA	NA	ND	ND	487
1,1,1-Trichloroethane	ļ	ND	ND	ND	ND	ND	ND	200
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	0.314
Dibromomethane		ND	NA	NA	NA	ND	ND	
Tetrachloroethene	Ī	ND	ND		ND	ND	ND	1.43
Trichloroethene				-	1,2			2.54
1,2,4-Trimethylbenzene		NA	NA	NA	NA	ND	ND]
Vinyl Chloride						ND	,	0.0283
Benzene		ND	ND	ND	ND	ND	ND	0.617
Ethylbenzene	Ì	ND	ND	ND	ND	ND	ND	700
Toluene		ND	ND	ND	ND	ND	ND	1,000
Xylenes, Total		ND	ND	ND	ND	ND	ND-	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

ND = Not detected above the method detection limit.

NA = Not analyzed.

No data was collected during the October 1998 sampling event.

Bold = Analyte detected above laboratory reporting limit. Shaded = Analyte detected above the corresponding PRG.

-- = No PRG assigned.

Table 10
Recovery Well Analytical Results
Wayne Reclamation & Recycling

			R	ECOVERY WELL R	W-10 (Southeast Are	a)		PRG
CONSTITUENT Date	Sampled	8/27/1996	11/6/1996	6/12/1997	11/18/1997	4/21/1998	11/2/2001	(μg/L)
VOCs (µg/L)							- 	
Acetone		NA	NA	NA	NA	ND	ND	3,650
Bromomethane		2	ND	ND	ND	ND	ND	
n-Butylbenzene	- 1	ND	NA	NA	NA	ND	ND	
2-Butanone (MEK)		NA	NA	NA	NA	NA	NA	
Carbon Disulfide	1	NA	NA	NA	NA	ND	ND	768
Chloroethane		10	NA	NA	17	ND	17	
1,1-Dichloroethane	1	68	8	55	71	74	82	973
1,1-Dichloroethene			ND		Ş.	ND		0.0167
1,2-Dichloroethane		ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene			1	4.		Ų,	. J.J	70
trans-1,2-Dichloroethene		89	28	58	77	84	89	100
1,2-Dichloroethene, Total						1.	1.434,611	(170)
1,2-Dichloropropane	l	ND	ND	ND	1	ND		1.25
Chloroform	ľ	ND	ND	ND	ND	ND	ND	0.274
4-Methyl-2-pentanone (MIBk	()	NA	NA	NA	NA	ND	ND	487
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	200
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	ND	0.314
Dibromomethane	İ	ND	NA	NA	NA	ND	ND	
Tetrachloroethene	ĺ	1	ND	1	ND	ND	ND	1.43
Trichloroethene		, z 1 j		٠.	J.M. 12	. ال _خ و	Q.S.	2.54
1,2,4-Trimethylbenzene	ľ	NA	NA	NA	NA	ND	ND	
Vinyl Chloride				13,				0.0283
Benzene		ND	ND	ND	ND	ND		0.617
Ethylbenzene	Ĭ	ND	ND	ND	ND	ND	ND	700
Toluene	ì	ND	ND	ND	ND	ND	ND	1,000
Xylenes, Total		ND	ND	- ND	ND	ND	ND-	828

Volatile organic compounds (VOCs) and Preliminary Remediation Goals (PRGs) reported in micrograms per liter (µg/L).

ND = Not detected above the method detection limit.

NA = Not analyzed.

No data was collected during the October 1998 sampling event.

Bold = Analyte detected above laboratory reporting limit. Shaded = Analyte detected above the corresponding PRG.

-- = No PRG assigned.

Table 11
Summary of Recovery Well Construction Details
Wayne Reclamation & Recycling

Recovery Well Identification	TOIC Elevations 2001	Surface Elevations (msl)	Total Depth (bgs)	Well Diameter (inches)	Screen Length (feet)	Sump Length (feet)	Bottom Screen Elevation (msl)	Top Screen Elevation (msl)	Slot Size (inches)	General Location	Installation Date
RW-1	818.45	819.52	32.00	6	20	5	792.52	812.52	0.02	AST Area	October-94
RW-2	824.29	825.07	40.00	6	20	5	790.07	810.07	0.02	AST Area	October-94
RW-3	822.71	823.36	32.00	6	20	5	796.36	816.36	0.02	AST Area	October-94
RW-4	833.24	833.53	48.30	6	20	5	790.23	810.23	0.02	RW-4 Area	October-94
RW-5	823.94	824.20	40.00	6	30	0	784.20	814.20	0.02	SE Area	October-94
RW-6	820.71	821.62	43.50	6	35	0	778.12	813.12	0.02	SE Area	October-94
RW-7	820.21	821.51	36.00	6	30	0	785.51	815.51	0.02	SE Area	October-94
RW-8	821.86	823.03	41.80	. 6	35	0	781.23	816.23	0.02	SE Area	October-94
RW-9	821.69	821.88	37.00	6	30	0	784.88	814.88	0.02	SE Area	October-94
RW-10	822.55	824.03	40.30	6	35	0	783.73	818.73	0.02	SE Area	October-94

TOIC = Top of inner well casing.

RW = Recovery well.

msl = Above mean sea level.

AST = Aboveground Storage Tank.

bgs = Below ground surface.

SE = Southeast.

Depth to groundwater measured in feet below TOIC.

TOIC and surface elevations based on Benchmark Surveying, Inc. surveys of 7/2/2001 and 10/25/2001.

Construction details from As-Built Remedial Design drawings (Warzyn, March 1995).

Table 12
Summary of Groundwater Treatment System Volatile Organic Compound
Influent and Effluent Sampling
Wayne Reclamation & Recycling

Date Sampled	7/30/	/2004	8/31/	/2004	9/22/	2004
CONSTITUENT	IN	EFF	IN	EFF	IN	EFF
VOCs (μg/L)	1					
1,1-Dichloroethane	21	<1.0	22	<1.0	6.7	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0
1,1-Dichloroethene	1.3	<1.0	3.2	<1.0	<2.0	<1.0
cis-1,2-Dichloroethene	1,900	210	1,800	130	1,100	71
trans-1,2-Dichloroethene	17	<1.0	21	<1.0	7.1	<1.0
Trichloroethene	280	11	260	5.7	56	2.0
Vinyl Chloride	220	<1.0	250	<1.0	38	<1.0
Total VOC Concentration	2,439.3	221.0	2,356.2	135.7	1,207.8	73.0

Date Sampled	10/21	/2004	11/22	/2004	12/17	/2004
CONSTITUENT	IN	EFF	IN	EFF	IN	EFF
VOCs (µg/L)		1				
1,1-Dichloroethane	29	<1.0	19	<1.0	14	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	2.4	<1.0	3.0	<1.0	2.3	<1.0
cis-1,2-Dichloroethene	850	78	1,900	92	1,300	63
trans-1,2-Dichloroethene	16	<1.0	15	<1.0	15	<1.0
Trichloroethene	340	4.0	170	3.3	200	3.2
Vinyl Chloride	260	<1.0	190	<1.0	160	<1.0
Total VOC Concentration	1,497.4	82.0	2,297.0	95.3	1,691.3	66.2

Volatile organic compounds (VOCs) reported in micrograms per liter ($\mu g/L$).

< = Not detected above the reporting limit provided.

Bold = Analyte detected above the laboratory reporting limit.

July through December 2004 data validated to Level II; no flags required.

IN = Influent water sample.

EFF = Effluent water sample.

Results indicated for primary detected

constituents.

Table 13
Summary of Groundwater Treatment System Effluent Sampling - Metals, Inorganics, and Polychlorinated Biphenyls
Wayne Reclamation & Recycling

CONSTITUENT Date Sampled	11/18/1997	12/18/1997	1/30/1998	10/13/1998	10/13/1999	10/6/2000	10/31/2001	10/24/2002	10/16/2003	10/21/2004
Total Metals (mg/L)										
Arsenic	0.015	0.0044	0.005	<0.005	<0.005	<0.028	<0.0050	<0.0050	0.0130	<0.0100
Beryllium	<0.0050	<0.0050	<0.0050	<0.003	<0.003	< 0.003	<0.0010	<0.0010	<0.0010	<0.00400
Cadmium	<0.0050	<0.0050	<0.0050	<0.005	<0.010	<0.005	<0.0010	<0.0010	<0.0010	<0.00500
Chromium	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0020	<0.0020	<0.0020	<0.0100
Copper	0.032	<0.020	1.9	<0.010	<0.005	<0.005	<0.0050	<0.0050	0.0170	<0.0200
Lead	<0.10	<0.10	<0.10	<0.005	<0.005	<0.005	<0.0010	<0.0010	<0.0010	<0.0100
Mercury	<0.00020	<0.00020	<0.00020	<0.0005	<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.00200
Molybdenum	<0.20	<0.20	<0.20	<0.020	<0.020	<0.020	0.0061	0.0084	0.0064	<0.0500
Nickel	<0.050	<0.020	<0.020	<0.020	<0.020	<0.005	0.0091	0.0078	0.0110	<0.0500
Potassium	12.0	12.0	9.5	11.0	9.0	9.0	8.6	10.7	10.8	10.4
Selenium	<0.0020	<0.0020	<0.0020	<0.005	<0.005	< 0.036	<0.0050	<0.0050	<0.0050	<0.0100
Silver	<0.010	<0.010	<0.010	<0.020	<0.001	<0.005	<0.0005	<0.0005	<0.0005	<0.0500
Zinc	0.054	< 0.020	<0.020	<0.020	<0.020	<0.020	<0.050	<0.050	0.226	<0.0500
Inorganics/Wet Chemistry (mg/L)										
Biological Oxygen Demand	<2.0	<2.0	<2.0	<5	6	8	<5	9.4	<5	<5
Chemical Oxygen Demand	23	18	21	<10	<10	16	72	24	17	<10.0
Total Cyanide	<0.005	<0.005	<0.0050	<0.005	<0.005	<0.020	<0.005	<0.005	<0.005 (J)	<0.00500
Oil & Grease	<5.0	<5.0	<5.0	<5.0	6	6	<5	<5	<5	<5.00
pH	8.3	8.27	7.65	NA	7.2	7.2	NA	8.06	7.87	8.14
Total Phenols	<0.01	<0.01	0.17	<0.010	<0.010	<0.005	0.0093	0.0084	<0.010	<0.100
Total Phosphorus	0.93	0.75	0.96	<0.05	0.48	<0.15	<0.15	<0.15	<0.05	< 0.0500
Surfactants (MBAs)	Negative	Negative	Negative	Positive	Positive	Negative	0.13	0.16	<0.10	0.701
Total Solids	1,100	820	850	830	790	820	850	800	960	940
Total Suspended Solids	11	14	19	27	<5	5	9	<5	6	34.5
Nitrate/Nitrite Nitrogen	0.32	0.33	0.44	0.036	0.04	0.033	0.23	0.033	0.20	<0.500
Ammonia Nitrogen	0.72	0.15	0.28	1.00	0.80	1.10	1.20	1.8	2.6	1.45
Total Kjeldahl Nitrogen	47	1.21	0.98	1.6	1.09	1.5	1.6	2.1	2.7	2.08
PCBs (ug/L)										
Aroclor 1016	<0.2	<0.2	<0.2	<1.0	<0.7	<1.0	<0.21	<0.21	<0.20	<0.51
Aroclor 1221	<0.2	<0.2	<0.2	<1.0	<0.7	<1.0	<0.21	<0.21	<0.20	<0.51
Aroclor 1232	<0.4	<0.4	<0.4	<1.0	<0.7	<1.0	<0.21	<0.21	<0.20	<0.51
Aroclor 1242	<0.2	<0.2	<0.2	<1.0	<0.7	<1.0	<0.21	<0.21	<0.20	<0.51
Aroclor 1248	<0.2	<0.2	<0.2	<1.0	<0.7	<1.0	<0.21	<0.21	<0.20	<0.51
Aroclor 1254	<0.2	<0.2	<0.2	<1.0	<0.7	<1.0	<0.21	<0.21	<0.20	<0.51
Aroclor 1260	<0.2	<0.2	<0.2	<1.0	<0.7	<1.0	<0.21	<0.21	<0.20	<0.51

Total metals and inorganic/wet chemistry parameters reported in milligrams per liter (mg/L).

Polychlorinated biphenyls (PCBs) are reported in micrograms per liter (µg/L).

Bold = Analyte detected above laboratory reporting limit.

< = Not detected above the reporting limit provided.

NA = Not analyzed.

October 2002 data was validated to Level IV; no flags were required for the data in this table collected on that date.

October 2003 data was validated to Level II; (J) = estimated.

October 2004 data was validated to Level II; no flags were required for the data in this table collected on that date.

Table 14
Summary of Treatment System Air Sampling
Wayne Reclamation & Recycling

Date Sampled	4/23	/1999	5/17/1999		6/24/1999	
CONSTITUENT (ppb[v/v])	IN	EFF	IN	EFF	IN	EFF
Tetrachloroethene	<14	17	110	52	46	6
Trichloroethene	220	300	570	240	860	120
1,1-Dichloroethene	<14	<13	<18	<12	<17	6
cis-1,2-Dichloroethene	1,600	1,500	2,200	1,000	2,300	390
trans-1,2-Dichloroethene	50	58	52	36	140	35
Vinyl Chloride	360	280	220	120	240	35
1,1,1-Trichloroethane	36	36	83	25	43	8
1,1-Dichloroethane	26	25	29	13	45	9
Toluene	20	<13	<18	<12	<17	3
Cumulative Risk (1)	7.52E-07	5.93E-07	4.98E-07	2.67E-07	5.45E-07	7.90E-0

Date Sampled	7/13/1999	8/6/1999	9/1/1999	10/14/1999	11/23/1999	12/13/1999		
CONSTITUENT (ppb[v/v])	EFFLUENT SAMPLE							
Tetrachloroethene	51	27	25	63	16	38		
Trichloroethene	440	810	390	1,700	390	520		
1,1-Dichloroethene	<7.8	<9.2	4	<9.2	<14	<12		
cis-1,2-Dichloroethene	2,200	<9.2	1,600	3,300	1,400	1,500		
trans-1,2-Dichloroethene	100	140	120	260	76	95		
Vinyl Chloride	340	270	220	180	200	200		
1,1,1-Trichloroethane	180	44	200	99	97	66		
1,1-Dichloroethane	45	45	60	61	32	32		
Toluene	<7.8	<9.2	<2.3	<9.2	<14	<12		
Cumulative Risk (1)	7.29E-07	6.01E-07	4.76E-07	4.68E-07	4.33E-07	4.44E-07		

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

IN = Influent; EFF = effluent sample; < = not detected above the reporting limit provided.

Bold = Analyte detected above the laboratory reporting limit.

Air treatment system was discontinued on June 24, 1999. Air is now discharged directly to the atmosphere.

⁽¹⁾ Cumulative Risk calculation is indicated on Table 15.

Table 14
Summary of Treatment System Air Sampling
Wayne Reclamation & Recycling

Date Sampled	1/3/2000	2/7/2000	3/15/2000	4/25/2000	5/24/2000	6/6/2000		
CONSTITUENT (ppb[v/v])	EFFLUENT SAMPLE							
Tetrachloroethene	57	<8.3	88	<21	110	30		
Trichloroethene	440	220	400	300	440	380		
1,1-Dichloroethene	<18	<8.3	<9.0	<3.1	<12	2		
cis-1,2-Dichloroethene	1,100	740	1,200	2,300	1,000	1,800		
trans-1,2-Dichloroethene	68	55	46	83	71	85		
Vinyl Chloride	94	91	61	260	130	190		
1,1,1-Trichloroethane	110	29	89	47	150	110		
1,1-Dichloroethane	29	17	25	31	30	27		
Toluene	<18	<8.3	<9.0	<3.1	<12	<2.0		
Cumulative Risk (1)	2.25E-07	2.00E-07	1.60E-07	5.52E-07	3.07E-07	4.14E-07		

Date Sampled	7/25/2000	8/4/2000	9/5/2000	10/6/2000	11/7/2000	12/21/2000		
CONSTITUENT (ppb[v/v])	EFFLUENT SAMPLE							
Tetrachloroethene	31	56	22	52	110	38		
Trichloroethene	290	840	540	920	840	760		
1,1-Dichloroethene	<9.7	<12	<12	<18	<10	<9.3		
cis-1,2-Dichloroethene	1,400	2,200	2,100	2,200	1,900	1,900		
trans-1,2-Dichloroethene	39	100	140	160	97	100		
Vinyl Chloride	190	230	210	130	170	190		
1,1,1-Trichloroethane	80	59	80	93	73	50		
1,1-Dichloroethane	21	30	34	49	36	30		
Toluene	<9.7	<12	<12	<18	<10	<9.3		
Cumulative Risk (1)	4.10E-07	5.25E-07	4.63E-07	3.23E-07	4.10E-07	4.36E-07		

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

Bold = Analyte detected above the laboratory reporting limit.

Air treatment system was discontinued on June 24, 1999. Air is now discharged directly to the atmosphere.

⁽¹⁾ Cumulative Risk calculation is indicated on Table 15.

< = Not detected above the reporting limit provided.

Table 14
Summary of Treatment System Air Sampling
Wayne Reclamation & Recycling

Date Sampled	1/30/2001	2/26/2001	3/21/2001	4/23/2001	5/21/2001	6/13/2001	
CONSTITUENT (ppb[v/v])	EFFLUENT SAMPLE						
Tetrachloroethene	38	<140	34	<140	<150	<150	
Trichloroethene	630	260	340	160	<150	430	
1,1-Dichloroethene	<9.2	<140	2.1	<140	<150	<150	
cis-1,2-Dichloroethene	2,000	1,700	1,300	1,000	630	1,400	
trans-1,2-Dichloroethene	49	NA	NA	NA	NA	NA	
Vinyl Chloride	270	180	190	160	<150	210	
1,1,1-Trichloroethane	53	<140	26	<140	<150	<150	
1,1-Dichloroethane	30	<140	18	<140	<150	<150	
Toluene	<9.2	<140	4.0	<140	<150	<150	
Cumulative Risk (1)	5.93E-07	4.05E-07	4.13E-07	3.58E-07	3.39E-07	4.77E-07	

Date Sampled	7/23/2001	8/23/2001	9/17/2001	10/31/2001	11/18/2001	12/28/2001
CONSTITUENT (ppb[v/v])			EFFLUEN	T SAMPLE		
Tetrachloroethene	<140	<140	<140	<140	<100	<130
Trichloroethene	140	280	280	410	460	300
1,1-Dichloroethene	<140	<140	<140	<140	<100	<130
cis-1,2-Dichloroethene	1,100	600	680	1,500	2,200	1,700
trans-1,2-Dichloroethene	NA	NA	NA	<140	<100	NA
Vinyl Chloride	<140	<140	<140	260	210	210
1,1,1-Trichloroethane	<140	<140	<140	<140	<100	<130
1,1-Dichloroethane	<140	<140	<140	<140	<100	<130
Toluene	<140	<140	<140	<140	<100	<130
Cumulative Risk (1)	3.16E-07	3.24E-07	3.24E-07	5.77E-07	4.71E-07	4.67E-07

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

Bold = Analyte detected above the laboratory reporting limit.

Air treatment system was discontinued on June 24, 1999. Air is now discharged directly to the atmosphere.

⁽¹⁾ Cumulative Risk calculation is indicated on Table 15.

< = Not detected above the reporting limit provided; NA = not analyzed.

Table 14
Summary of Treatment System Air Sampling
Wayne Reclamation & Recycling

Date Sampled	1/18/2002	2/7/2002	3/21/2002	4/23/2002	5/23/2002	6/18/2002	
CONSTITUENT (ppb[v/v])	EFFLUENT SAMPLE						
Tetrachloroethene	<130	<130	<140	7.8	<140	<140	
Trichloroethene	280	530	180	29	160	290	
1,1-Dichloroethene	<130	<130	<140	<0.69	<140	<140	
cis-1,2-Dichloroethene	1,600	2,800	900	37	800	1,200	
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	
Vinyl Chloride	280	500	160	1.0	150	220	
1,1,1-Trichloroethane	<130	<130	<140	42	<140	<140	
1,1-Dichloroethane	<130	<130	<140	3.5	<140	<140	
Toluene	<130	<130	<140	<0.69	<140	<140	
Cumulative Risk ⁽¹⁾	6.09E-07	1.07E-06	3.59E-07	4.79E-09	3.38E-07	4.88E-07	

Date Sampled	7/19/2002	8/14/2002	9/20/2002	10/24/2002	11/21/2002	12/13/2002
CONSTITUENT (ppb[v/v])			EFFLUEN	T SAMPLE	· · · · · ·	
Tetrachloroethene	<140	<140	<100	<130	<140	<140
Trichloroethene	<140	200	520	1,000	720	410
1,1-Dichloroethene	<140	<140	<100	<130	<140	<140
cis-1,2-Dichloroethene	230	920	1,500	1,500	1,200	1,100
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
Vinyl Chloride	<140	220	<100	<130	<140	<140
1,1,1-Trichloroethane	<140	<140	<100	<130	<140	<140
1,1-Dichloroethane	<140	<140	<100	<130	<140	<140
Toluene	<140	<140	<100	<130	<140	<140
Cumulative Risk (1)	3.16E-07	4.84E-07	2.48E-07	3.47E-07	3.47E-07	3.31E-07

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

Bold = Analyte detected above the laboratory reporting limit.

Air treatment system was discontinued on June 24, 1999. Air is now discharged directly to the atmosphere.

July through December 2002 data validated to Level IV; no flags required for data in this table collected on those dates.

⁽¹⁾ Cumulative Risk calculation is indicated on Table 15.

< = Not detected above the reporting limit provided; NA = not analyzed.

Table 14
Summary of Treatment System Air Sampling
Wayne Reclamation & Recycling

Date Sampled	1/23/2003	2/10/2003	3/19/2003	4/15/2003	5/19/2003	6/6/2003		
CONSTITUENT (ppb[v/v])	EFFLUENT SAMPLE							
Tetrachloroethene	<140	<140	<130	<140	<130	<140		
Trichloroethene	420	320	320	380	280	390		
1,1-Dichloroethene	<140	<140	<130	<140	<130	<140		
cis-1,2-Dichloroethene	920	520	760	1,400	750	1,000		
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA		
Vinyl Chłoride	<140	<140	<130	<140	<130	<140		
1,1,1-Trichloroethane	<140	<140	<130	<140	<130	<140		
1,1-Dichloroethane	<140	<140	<130	<140	<130	<140		
Toluene	<140	<140	<130	<140	<130	<140		
Cumulative Risk (1)	3.31E-07	3.26E-07	3.04E-07	3.29E-07	3.02E-07	, 3.29E-07		

Date Sampled	7/14/2003	8/21/2003	9/15/2003	10/16/2003	11/7/2003	12/22/2003
CONSTITUENT (ppb[v/v])			EFFLUEN	T SAMPLE		
Tetrachloroethene	<140	<140	7.4	< 130	< 130	< 130
Trichloroethene	290	330	240	230	230	220
1,1-Dichloroethene	<140	<140	<0.66	< 130	< 130	< 130
cis-1,2-Dichloroethene	740	800	270	750	380	1,100
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
Vinyl Chloride	<140	<140	11	< 130	< 130	190
1,1,1-Trichloroethane	<140	<140	5.4	< 130	< 130	< 130
1,1-Dichloroethane	<140	<140	2.3	< 130	< 130	< 130
Toluene	<140	<140	<0.66	< 130	< 130	< 130
Cumulative Risk (1)	3.24E-07	3.26E-07	3.63E-08	2.99E-07	2.99E-07	4.22E-07

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

Bold = Analyte detected above the laboratory reporting limit.

Air treatment system was discontinued on June 24, 1999. Air is now discharged directly to the atmosphere.

2003 data validated to Level II; no flags required for data in this table collected in 2003.

⁽¹⁾ Cumulative Risk calculation is indicated on Table 15.

< = Not detected above the reporting limit provided; NA = not analyzed.

Table 14
Summary of Treatment System Air Sampling
Wayne Reclamation & Recycling

Date Sampled	1/29/2004	2/20/2004	3/16/2004	4/19/2004	5/18/2004	6/23/2004
CONSTITUENT (ppb[v/v])			EFFLUEN	T SAMPLE		
Tetrachloroethene	<130	<120	<140	7.1	<150	12
Trichloroethene	<130	300	<140	480	<150	260
1,1-Dichloroethene	<130	<120	<140	3.1	<150	5.0
cis-1,2-Dichloroethene	350	1,200	540	2,300	510	1,800
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
Vinyl Chloride	150	220	<140	350	<150	300
1,1,1-Trichloroethane	<130	<120	<140	4.8	<150	4.3
l,1-Dichloroethane	<130	<120	<140	18	<150	23
Toluene	<130	<120	<140	2.1	<150	5.8
Cumulative Risk (1)	3.35E-07	4.86E-07	3.16E-07	7.44E-07	3.39E-07	6.31E-07

Date Sampled	7/30/2004	8/31/2004	9/22/2004	10/19/2004	11/22/2004	12/17/2004
CONSTITUENT (ppb[v/v])			EFFLUEN	T SAMPLE		
Tetrachloroethene	<140	<130	<140	<150	<140	<140
Trichloroethene	250	180	<140	180	210	780
1,1-Dichloroethene	<140	<130	<140	<150	<140	<140
cis-1,2-Dichloroethene	1,300	1,000	620	820 (UB)	1,000	1,300
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
Vinyl Chloride	260	140	<140	180 (UB)	170	<140
1,1,1-Trichloroethane	<140	<130	<140	<150	<140	<140
1,1-Dichloroethane	<140	<130	<140	<150	<140	<140
Toluene	<140	<130	<140	<150	<140	<140
Cumulative Risk (1)	5.68E-07	3.17E-07	3.16E-07	4.02E-07	3.82E-07	3.50E-07

Results are reported in parts per billion on a volume per volume basis (ppb[v/v]) for primary detected constituents, analyzed via United States Environmental Protection Agency Method TO-14.

Bold = Analyte detected above the laboratory reporting limit.

Air treatment system was discontinued on June 24, 1999. Air is now discharged directly to the atmosphere.

2004 data validated to Level II; (UB) = estimated value due to blank contamination.

⁽¹⁾ Cumulative Risk calculation is indicated on Table 15.

< = Not detected above the reporting limit provided; NA = not analyzed.

Table 15 Summary of Air Dispersion Calculations Wayne Reclamation & Recycling

	Description /						CONSTITUENTS	<u>-</u>				Cumulative
Scenario Number	Sample Date	Input / Output	Tetrachloroethene Carcinogen	Trichioroethene Carcinogen	I,I-Dichloroethene Non-Carcinogen	cis-1,2-Dichloroethene Non-Carcinogen	trans-1,2-Dichloroethene Non-Carcinogen	Vinyl Chloride Carcinogen	I, I, I-Trichioroethane Non-Carcinogen	1,1-Dichloroethane Carcinogen	Toluene Non-Carcinogen	Cancer Risk
93	IN	(ppb[v/v])	46	860	17	2300	140	240	43	45	17	
	6/24/1999	(g/s)	0.0003	0.0048	0.0001	0.0129	0.0008	0.0013	0.0002	0.0003	0.0001	
	l	Max.Conc.	0.001	0.023	0.000	0.060	0.004	0.006	0.001	0.001	0.000	
		ECR	7.14E-09	4.52E-08				4 92E-07		1.93E-11		5.45E-07
94	EFF	(ppb[v/v])	6	120	6	390	35	35	8	9	3	
	6/24/1999	(g/s)	0.0000	0.0007	0.0000	0.0022	0.0002	0.0002	0.0000	0.0001	0.0000	
	1	Max.Conc.	0.000	0.003	0.000	0.010	0.001	0.001	0.000	0.000	0.000	
		ECR	9.31E-10	6.31E-09				7.18E-08		3.86E-12		7.90E-08
95	EFF	(ppb[v/v])	51	440	8	2200	100	340	180	45	8	
	7/13/1999	(g/s)	0.0003	0.0025	0.0000	0,0123	0.0006	0.0019	0.0010	0.0003	0.0000	
	1	Max.Conc.	0.001	0.012	0.000	0.058	0.003	0.009	0.005	0.001	0.000	
		ECR	7.91E-09	2.31E-08				6.97E-07		1.93E-11	<u> </u>	7.29E-07
96	EFF	(ppb[v/v])	27	810	45	9	140	270	44	45	9	
	8/6/1999	(g/s)	0.0002	0.0045	0.0003	0.0001	0.0008	0.0015	0.0002	0.0003	0.0001	
		Max.Conc.	0.001	0.021	0.001	0.000	0.004	0.007	0.001	0.001	0.000	
		ECR	4.19E-09	4.26E-08				5.54E-07	-	1.93E-11		6.01E-07
97	EFF	(ppb[v/v])	25	390	4	1600	120	220	200	60	2	
	9/1/1999	(g/s)	0.0001	0.0022	0.0000	0.0090	0.0007	0.0012	0.0011	0.0003	0.0000	
		Max.Conc.	0.001	0.010	0.000	0.042	0.003	0.006	0.005	0.002	0.000	
		ECR	3.88E-09	2.05E-08				4.51E-07		2.57E-11		4.76E-07
98	EFF	(pph[v/v])	63	1700	9	3300	260	180	99	61	9	
	10/14/1999	(g/s)	0.0004	0.0095	0.0001	0.0185	0.0015	0.0010	0.0006	0.0003	0.0001	
		Max.Conc.	0.002	0.045	0.000	0.087	0.007	0.005	0.003	0.002	0.000	
		ECR	9.78E-09	8.94E-08				3.69E-07		2.62E-11		4.68E-07
99	EFF	(ppb[v/v])	16	390	14	1400	76	200	97	32	14	
	11/22/1999	(g/s)	0.0001	0.0022	0.0001	0.0078	0.0004	0.0011	0.0005	0.0002	0.0001	
		Max.Conc.	0.000	0.010	0.000	0.037	0.002	0.005	0.003	0.001	0.000	
		ECR	2.48E-09	2.05E-08				4.10E-07		1.37E-11		4.33E-07
100	EFF	(ppb[v/v])	38	520	14	1500	95	200	66	32	14	
	12/13/1999	(g/s)	0.0002	0.0029	0.0001	0.0084	0.0005	0.0011	0.0004	0.0002	0.0001	
		Max.Conc.	0.001	0.014	0.000	0.039	0.002	0.005	0.002	0.001	0.000	
		ECR	5.90E-09	2.74E-08				4.10E-07		1.37E-11		4.44E-07
101	EFF	(ppb[v/v])	57	440	18	1100	68	94	110	29	18	
	1/3/2000	(g/s)	0.0003	0.0025	0.0001	0.0062	0.0004	0.0005	0.0006	0.0002	0.0001	
		Max.Conc.	0.001	0.012	0.000	0.029	0.002	0,002	0.003	0.001	0.000	
		ECR	8,84E-09	2.31E-08				1.93E-07		1.24E-11		2.25E-07
102	EFF	(ppb[v/v])	8	220	8	740	55	91	29.	17	8	
	2/7/2000	(g/s)	0.0000	0.0012	0.0000	0.0041	0.0003-	0.0005	0,0002	0.0001	0.0000	
	1	Max.Conc.	0.000	0.006	0.000	0.019	0.001	0.002	0.001	0.000	0.000	
		ECR	1.29E-09	1.16E-08				1.87E-07		7.29E-12		2.00E-07

Detected constituent concentrations in parts per billion on a volume per volume basis (ppb[v/v]) from Table 13.

g/s = ppb[v/v] x 1,000 / (22,500 x 2.205 x 3,600).

ECR = Excess Cancer Risk = Maximum concentration (in µg/m⁻¹) x Unit Risk Factor.

IN = Sample collected from air treatment system influent.

EFF = Sample collected from air treatment system effluent.

Max. Conc. = Maximum predicted concentration in micrograms per meter cubed (μg/m 1) from ISC-LT2 model run output.

Unit Risk Factors are: Vinyl Chloride - 7 80E-05

1,1-Dichloroethane - 1.63E-08

Trichloroethene = 2.00E-06 Tetrachloroethene = 5.90E-06

Table 15
Summary of Air Dispersion Calculations
Wayne Reclamation & Recycling

	Description /						CONSTITUENTS			·····		Cumulative
Scenario Number	Sample Date	Input / Output	Tetrachloroethene Carcinogen	Trichloroethene Carcinogen	1,1-Dichloroethene Non-Carcinogen	cis-1,2-Dichloroethene Non-Carcinogen	trans-1,2-Dichloroethene Non-Carcinogen	Vinyl Chloride Carcinogen	1,1,1-Trichloroethane Non-Carcinogen	1,1-Dichloroethane Carcinogen	Toluene Non-Carcinogen	Cancer Risk
103	EFF	(ppb[v/v])	88	400	9	1200	46	61	89	25	9	
	3/15/2000	(g/s)	0.0005	0.0022	0.0001	0.0067	0.0003	0.0003	0.0005	0.0001	0.0001	
		Max.Conc.	0.002	0,011	0.000	0.032	0.001	0.002	0.002	0.001	0.000	
		ECR	1.37E-08	2.10E-08				1.25E-07		1.07E-11		1.60E-07
104	EFF	(ppb[v/v])	21	300	3	2300	R3	260	47	31	3	
	4/25/2000	(g/s)	0.0001	0.0017	0.0000	0.0129	0 0005	0.0015	0.0003	0.0002	0.0000	1
		Max.Conc.	0.001	0.008	0,000	0.060	0.002	0.007	0.001	0.001	0.000	1
		ECR	3.26E-09	1.5RE-0R			·	5.33E-07		1.33E-11		5.52E-07
105	EFF	(ppb[v/v])	110	440	12	1000	71	130	150	30	12	
	5/24/2000	(g/s)	0.0006	0.0025	0.0001	0.0056	0.0004	0.0007	0.0008	0.0002	0.0001	1
	· -	Max.Conc.	0.003	0.012	0,000	0.026	0.002	0.003	0.004	0.001	0.000	
		ECR	1.71E-08	2.31E-08				2.67E-07		1.29E-11	<u> </u>	3.07E-07
106	EFF	(ppb[v/v])	30	380	2	1800	85	190	110	27	2	
	6/6/2000	(g/s)	0.0002	0.0021	0.0000	0.0101	0.0005	0.0011	0.0006	0.0002	0.0000	
		Max.Conc.	0.001	0.010	0.000	0.047	0.002	0.005	0.003	0.001	0.000	
		ECR	4.66E-09	2.00E-08				3.90E-07		1.16E-11		4.14E-07
107	EFF	(ppb[v/v])	31	290	10	1400	39	190	80	21	10	
	7/25/2000	(g/s)	0.0002	0.0016	0.0001	0.0078	0.0002	0.0011	0.0004	0.0001	0.0001	
		Max.Conc.	0.001	0.008	0.000	0.037	0.001	0.005	0.002	0.001	0.000	
		ECR	4.81E-09	1.53E-08				3.90E-07		9.00E-12		4.10E-07
108	EFF	(ppb[v/v])	56	840	12	2200	100	230	59	30	12	
	8/4/2000	(g/s)	0.0003	0.0047	0.0001	0.0123	0.0006	0.0013	0.0003	0.0002	0.0001	
	1	Max.Conc.	0.001	0.022	0.000	0.058	0.003	0.006	0 002	0.001	0.000	
		ECR	8.69E-09	4.42E-08				4.72E-07		1.29E-11		5.25E-07
109	EFF	(ppb[v/v])	22	540	12	2100	140	210	80	34	12	}
	9/5/2000	(g/s)	0.0001	0.0030	0.0001	0.0118	0.0008	0.0012	0.0004	0.0002	0.0001	
		Max.Conc.	0.001	0.014	0.000	0.055	0.004	0.006	0.002	0.001	0.000	
		ECR	3.41E-09	2.84E-08				4.31E-07		1.46E-11		4.63E-07
110	EFF	(ppb[v/v])	52	920	18	2200	160	130	93	49	18	
	10/6/2000	(g/s)	0.0003	0.0052	0.0001	0.0123	0.0009	0.0007	0.0005	0.0003	0,0001	
		Max.Conc.	0.001	0.024	0.000	0.058	0.004	0.003	0.002	0.001	0.000	
		ECR	8.07E-09	4.84E-08				2.67E-07		2.10E-11		3.23E-07
111	EFF	(ppb[v/v])	110	840	10	1900	97	170	73	36	10	
	11/7/2000	(g/s)	0.0006	0.0047	0.0001	0.0106	0.0005	0.0010	0,0004	0.0002	0.0001	
		Max.Conc.	0.003	0.022	0.000	0.050	0.003	0.004	0.002	0.001	0.000	
		ECR	1.71E-08	4.42E-08				3.49E-07		1.54E-11	ļ	4.10E-07
112	EFF	(ppb[v/v])	38	760	9	1900	100	190	50	30	ĝ	
	12/21/2000	(g/s)	0.0002	0.0043	0.0001	0.0106	0.0006	0.001 i	0.0003	0.0002	0.0001	
		Max.Conc.	0.001	0.020	0.000	0.050	0.003	0.005	0.001	0.001	0.000	
		ECR	5.90E-09	4.00E-08				3.90E-07		1.29E-11	<u> </u>	4.36E-07

Detected constituent concentrations in parts per billion on a volume per volume basis (ppb[v/v]) from Table 13.

g/s = ppb[v/v] x 1,000 / (22,500 x 2,205 x 3,600)

ECR = Excess Cancer Risk = Maximum concentration (in µg/m 1) x Unit Risk Factor.

EFF = Sample collected from air treatment system effluent

Max. Conc. = Maximum predicted concentration in micrograms per meter cubed (µg/m⁻¹) from ISC-LT2 model run output.

Unit Risk Factors are

Vinyl Chloride -- 7 R0E-05

1,1-Dichloroethane - 1 63E-08 Trichloroethene - 2 00E-06

Tetrachloroethene - 5 90E-06

Table 15
Summary of Air Dispersion Calculations
Wayne Reclamation & Recycling

	Description /						CONSTITUENTS					Cumulative
Scenario Number	Sample Date	Input / Output	Tetrachloroethene Carcinogen	Trichloroethene Carcinogen	I, I-Dichloroethene Non-Carcinogen	cis-1,2-Dichloroethene Non-Carcinogen	trans-1,2-Dichloroethene Non-Carcinogen	Vinyl Chloride Carcinogen	1,1,1-Trichloroethane Non-Carcinogen	1,1-Dichloroethane Carcinogen	Toluene Non-Carcinogen	Cuncer Risk
113	EFF	(pph[v/v])	38	630	9	2000	49	270	53	30	9	
	1/30/2001	(g/s)	0,0002	0.0035	0.0001	0.0112	0.0003	0.0015	0.0003	0.0002	0.0001	
	1	Max.Conc.	0.001	0.017	0,000	0.053	0.001	0.007	0.001	0.001	0.000	l
	_	ECR	5.90E-09	3.31E-08				5.54E-07		1.29E-11		5.93E-07
114	EFF	(ppb[v/v])	140	260	140	1700	1	180	140	140	140	
	2/26/2001	(g/s)	0.0008	0.0015	0.0008	0.0095	0.0000	0.0010	0.0008	0.0008	0.0008	
	[Max.Conc.	0.004	0.007	0.004	0.045	0.000	0.005	0.004	0.004	0.004	
		ECR	2.17E-08	1.37E-08				3.69E-07		6.00E-11		4.05E-07
115	EFF	(ppb{v/v})	34	340	2	1300	1	190	26	18	4	
	3/21/2001	(g/s)	0.0002	0,0019	0.0000	0.0073	0.0000	0.0011	0.0001	0.0001	0.0000	
		Max.Conc.	0.001	0.009	0.000	0.034	0.000	0.005	0.001	0.000	0.000	i
		ECR	5.28E-09	1.79E-08				3.90E-07		7.72E-12		4.13E-07
116	EFF	(ppb[v/v])	140	160	140	1000	1	160	140	140	140	
	4/23/2001	(g/s)	8000,0	0.0009	0.0008	0.0056	0,0000	0.0009	0,0008	0.0008	0.0008	
		Max.Conc.	0.004	0.004	0.004	0.026	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	8.42E-09				3.28E-07		6.00E-11		3.58E-07
117	EFF	(ppb[v/v])	150	150	150	630	1	150	150	150	150	
	5/21/2001	(g/s)	0,0008	0,0008	0.0008	0,0035	0.0000	0.0008	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.004	0.004	0.017	0.000	0.004	0 004	0,004	0,004	r
		ECR	2.33E-08	7.89E-09				3.0RE-07		6.43E-11		3.39E-07
118	EFF	(ppb[v/v])	150	430	150	1400		210	150	150	150	
	6/13/2001	(g/s)	0.0008	0.0024	0.0008	0.0078	0.0000	0.0012	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.011	0.004	0.037	0.000	0.006	0.004	0.004	0.004	
		ECR	2.33E-08	2.26E-08				4.31E-07		6.43E-11		4.77E-07
119	EFF	(ppb[v/v])	140	140	140	1100	1	140	140	140	140	
	7/23/2001	(g/s)	0.0008	0.0008	0.0008	0.0062	0.0000	0.0008	8000.0	0.0008	0.0008	
·		Max.Conc.	0.004	0.004	0 004	0.029	0.000	0.004	0.004	0.004	0.004	-
		ECR	2.17E-08	7.36E-09				2.87E-07		6.00E-11		3.16E-07
120	EFF	(ppb[v/v])	140	280	140	600	1	140	140	140	140	
	8/23/2001	(g/s)	0.0008	0.0016	0.0008	0.0034	0.0000	0.0008	0.0008	8000.0	0.0008	
		Max.Conc.	0.004	0.007	0.004	0.016	0.000	0.004	0.004	0.004	0.004	[
		ECR	2.17E-08	1.47E-08				2.87E-07		6.00E-11		3.24E-07
121	EFF	(ppb[v/v])	140	280	140	680	1	140	140	140	140	
	9/17/2001	(g/s)	0.0008	0.0016	0.0008	0.0038	0.0000	0.0008	0.0008	0.0008	0.0008	
	I	Max.Conc.	0.004	0.007	0.004	0.018	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	1.47E-08				2.87E-07		6.00E-11		3.24E-07
122	EFF	(ppb[v/v])	140	410	140	1500	140	260	140	140	140	L
	10/31/2001	(g/s)	0.0008	0.0023	0.0008	0.0084	0.0008	0.0015	0.0008	0.0008	0.0008	
	T	Max.Conc.	0.004	0.011	0.004	0.039	0.004	0.007	0.004	0.004	9.004	- "
		ECR	2.17E-08	2.16E-08				5.33E-07		6.00E-11	1	5.77E-07

Detected constituent concentrations in parts per billion on a volume per volume basis (ppb[v/v]) from Table 13.

 $g/s = ppb[v/v] \times 1,000 / (22,500 \times 2,205 \times 3,600)$

ECR = Excess Cancer Risk = Maximum concentration (in µg/m 1) x Unit Risk Factor.

EFF = Sample collected from air treatment system effluent

Max. Conc. = Maximum predicted concentration in micrograms per meter cubed (µg/m 1) from ISC-LT2 model run output.

Unit Risk Factors are. Vinyl Chloride -- 7.80E-05

1,1-Dichloroethane -- 1.63E-08

Trichloroethene -- 2.00E-06
Tetrachloroethene -- 5.90E-06

Table 15
Summary of Air Dispersion Calculations
Wayne Reclamation & Recycling

	Description /						CONSTITUENTS					Cumulative
Scenario	Sample	Input/	Tetrachlornethene	Trichioroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	1,1,1-Trichlornethane	1,1-Dichloroethane	Toluene	Cancer
Number	Date	Output	Carcinogen	Carcinogen	Non-Carcinogen	Non-Carcinogen	Non-Carcinogen	Carcinogen	Non-Carcinogen	Carcinogen	Non-Carcinogen	Risk
123	EFF	(pph[v/v])	100	460	100	2200	100	210	100	100	100	
	11/18/2001	(g/s)	0.0006	0.0026	0.0006	0.0123	0.0006	0.0012	0.0006	0.0006	0.0006	
		Max.Conc.	0.003	0.012	0.003	0.058	0.003	0.006	0.003	0.003	0.003	
		ECR	1.55E-08	2.42E-08		f		4.31E-07		4.29E-11		4.71E-07
124	EFF	(pph[v/v])	130	300	130	1700	1	210	130	130	130	
	12/28/2001	(g/s)	0.0007	0.0017	0.0007	0.0095	0.0000	0.0012	0.0007	0.0007	0.0007	
	1	Max.Conc.	0.003	800.0	0.003	0.045	0.000	0.006	0.003	0.003	0.003	
		ECR	2.02E-08	1.58E-08				4.31E-07		5.57E-11		4.67E-07
125	EFF	(ppb[v/v])	130	280	130	1600	1	280	130	130	130	
	1/18/2002	(g/s)	0.0007	0.0016	0,0007	0,0090	0,0000	0.0016	0,0007	0.0007	0.0007	
		Max.Conc.	0,003	0.007	0.003	0.042	0.000	0.007	0.003	0.003	0.003	
	1	ECR	2.02E-08	1.47E-08				5.74E-07		5.57E-11		6.09E-07
126	EFF	(ppb[v/v])	130	530	130	2800	1	500	130	130	130	
	2/7/2002	(g/s)	0.0007	0.0030	0.0007	0.0157	0.0000	0.0028	0.0007	0.0007	0.0007	
		Max.Conc.	0.003	0.014	0.003	0.074	0.000	0.013	0.003	0.003	0.003	
		ECR	2.02E-08	2.79E-08	3,005		-	1.03E-06		5.57E-11	0.005	1.07E-06
127	EFF	(ppb[v/v])	140	180	140	900	1	160	140	140	140	
	3/21/2002	(g/s)	0.0008	0,0010	0.0008	0.0050	0.0000	0.0009	0.0008	0.000R	0.0008	
		Max.Conc.	0.004	0.005	0.004	0.024	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	9.47E-09		0.02	0.000	3.28E-07	0.007	6.00E-11		3.59E-07
128	EFF	(ppb[v/v])	8	29	1	37	1		42	4	1	
	4/23/2002	(g/s)	0.0000	0.0002	0.0000	0.0002	0.0000	0.0000	0,0002	0.0000	0.0000	
		Max.Conc	0.000	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.000	
		ECR	1.21E-09	1.53E-09	0.000	0.001		2.05E-09	0.001	1.50E-12		4.79E-09
129	EFF	(ppb[v/v])	140	160	140	800		150	140	140	140	
	5/23/2002	(g/s)	0.0008	0.0009	0.0008	0.0045	0.0000	0.0008	0.0008	0.0008	0.0008	-
		Max.Conc.	0.004	0.004	0.004	0.021	0.000	0.004	0.004	0.004	0.004	
	f · · · · ·	ECR	2.17E-08	8.42E-09				3.08E-07		6.00E-11		3.38E-07
130	EFF	(ppb[v/v])	140	290	140	1200	1	220	140	140	140	
"24" -	6/18/2002	(g/s)	0.0008	0.0016	0.0008	0.0067	0.0000	0,0012	0.0008	0.0008	0.0008	
	†	Max.Conc.	0.004	0.008	0.004	0.032	0.000	0.006	0.004	0.004	0.004	
		ECR	2.17E-08	1.53E-08				4.51E-07		6.00E-11		4,88E-07
131	EFF	(ppb[v/v])	140	140	140	230	1	140	140	140	140	
	7/19/2002	(g/s)	0.0008	0.0008	0.0008	0.0013	0.0000	0.0008	0.0008	0.0008	0.0008	
	1	Max.Conc.	0.004	0.004	0.004	0.006	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	7.36E-09				2.87E-07		6.00E-11		3.16E-07
132	EFF	(ppb[v/v])	140	200	140	920	1	220	140	140	140	
	8/14/2002	(g/s)	0.0008	0.0011	0,0008	0.0052	0.0000	0.0012	0.0008	0.0008	0.0008	
	T	Max.Conc.	0.004	0.005	0.004	0.024	0.000	0.006	0.004	0.004	0.004	-
		ECR	2.17E-08	1.05E-08	T		1	4.51E-07		6.00E-11		4,84E-07

Detected constituent concentrations in parts per billion on a volume per volume basis (pph(v/v)) from Table 13 g/s = pph(v/v] x 1,000 / (22,500 x 2.205 x 3.600).

ECR = Excess Cancer Risk = Maximum concentration (In µg/m 1) x Unit Risk Factor.

EFF = Sample collected from air treatment system effluent.

Max. Conc. = Maximum predicted concentration in micrograms per meter cubed (µg/m 1) from ISC-LT2 model run output.

Unit Risk Factors are:

Vinyl Chloride -- 7.80E-05 1_1-Dichloroethane -- 1 63E-08 Trichloroethene -- 2.00E-06 Tetrachloroethene -- 5 90E-06

Table 15
Summary of Air Dispersion Calculations
Wayne Reclamation & Recycling

	Description /						CONSTITUENTS					Cumulative
Scenario Number	Sample Date	Input / Output	Tetrachloroethene Carcinogen	Trichloroethene Carcinogen	1,1-Dichloroethene Non-Carcinogen	cis-1,2-Dichloroethene Non-Carcinogen	trans-1,2-Dichloroethene Non-Carcinogen	Vinyl Chloride Carcinogen	1,1,1-Trichloroethane Non-Carcinogen	1,1-Dichloroethane Carcinogen	Toluene Non-Carcinogen	Cancer Risk
133	EFF	(ppb[v/v])	100	520	100	1500	1	100	100	100	100	
	9/20/2002	(g/s)	0,0006	0.0029	0.0006	0.0084	0.0000	0.0006	0.0006	0.0006	0.0006	
		Max.Conc.	0.003	0.014	0.003	0,039	0.000	0.003	0.003	0.003	0.003	
		ECR	1.55E-08	2.74E-08		·		2.05E-07	i	4.29E-11		2.48E-07
134	EFF	(ppb[v/v])	140	720	140	1300	1	140	140	140	140	
•	10/24/2002	(g/s)	0.0008	0.0040	0.0008	0.0073	0.0000	0.0008	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.019	0,004	0.034	0,000	0.004	0.004	0.004	0.004	
	1	ECR	2.17E-08	3.79E-08				2.87E-07		6.00E-11		3.47E-07
135	EFF	(ppb[v/v])	140	720	140	1200	1	140	140	140	140	
	11/21/2002	(g/s)	0.0008	0.0040	0.0008	0.0067	0.0000	0.0008	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.019	0.004	0.032	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	3.79E-08		0.052	0.000	2.87E-07		6.00E-11		3.47E-07
136	EFF	(ppb[v/v])	140	410	140	1100	1	140	140	140	140	
	12/13/2002	(g/s)	0.0008	0.0023	0.0008	0.0062	0,0000	0.0008	0.0008	0.0008	0.0008	
	12.17.2.02	Max.Conc.	0.004	0.011	0.004	0.029	0.000	0.004	0.004	0.004	0.004	
-	 	ECR	2.17E-08	2.16E-08	0.004	0.029	0,000	2.87E-07	0.004	6.00E-11	0.00	3.31E-07
137	EFF	(ppb[v/v])	140	420	140	920	1	140	140	140	140	5.57.2
137	1/23/2003	(g/s)	0.0008	0,0024	0.0008	0.0052	0,000	0.0008	0.0008	0.0008	0.0008	
	172372003	Max.Conc.	0.004	0.0024	0.004	0.0032	0.000	0.004	0.004	0.004	0.000	
		ECR	2.17E-08	2.21E-08	0.004	0.024	0.000	2.87E-07	0.004	6.00E-11	0.004	3.31E-07
138	EFF		140	320	140	520	1	140	140	140	140	
1.58	2/10/2003	(ppb[v/v])	0,0008	0.0018	140	0,0029	0.0000	0,000R	0.0008	0.0008	0.0008	
	2/10/2003	(g/s) Max.Conc.	0.004	0.0018	0.0008	0.014	0.000	0.004	0.000	0.000	0.000	
-		ECR	2.17E-08	1.68E-08	0,004	0.014	0.000	2.87E-07	0.004	6.00E-11		3.26E-07
139	EFF	(ppb[v/v])	130	320	130	760		130	130	130	130	
	3/19/2003	(g/s)	0.0007	0.0018	0,0007	0.0043	0.0000	0.0007	0.0007	0.0007	0.0007	
	1	Max.Conc.	0.003	0.008	0.003	0.020	0.000	0.003	0.003	0.003	0.003	
' - -		ECR	2.02E-08	1.68E-08	1			2.67E-07		5.57E-11		3.04E-07
140	EFF	(ppb[v/v])	140	380	140	1400	1	140	140	140	140	
	4/15/2003	(g/s)	0.0008	0.0021	0,0008	0.0078	0,0000	0.0008	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.010	0.004	0.037	0.000	0.004	0.004	0.004	0.004	
	1	ECR	2.17E-08	2.00E-08	-			2.87E-07		6.00E-11		3.29E-07
141	EFF	(ppb[v/v])	130	280	130	750		130	130	130	130	
	5/19/2003	(g/s)	0.0007	0.0016	0.0007	0,0042	0.0000	0.0007	0.0007	0.0007	0.0007	1
	1	Max.Conc.	0.003	0,007	0.003	0.020	0.000	0.003	0.003	0.003	0.003	
		ECR	2.02E-08	1.47E-08				2.67E-07		5.57E-11		3.02E-07
142	EPF	(ppb[v/v])	140	390	140	1000 -	1	140	140	140	140	
	6/6/2003	(g/s)	0.0008	0.0022	8000.0	0.0056	0.0000	0.0008	0.0008	0.0008	0.0008	T
		Max.Conc.	0.004	0.010	0.004	0.026 -	0.000	0.004	0.004	0.004	0,004	-
	1	ECR	2.17E-08	2.05E-08	1	†		2.87E-07		6.00E-11		3.29E-07

Detected constituent concentrations in parts per billion on a volume per volume basis (ppb[v/v]) from Table 13.

g/s = ppb[v/v] x 1,000 / (22,500 x 2.205 x 3.600)

ECR = Excess Cancer Risk = Maximum concentration (in µg/m 3) x Unit Risk Factor.

EFF = Sample collected from air treatment system effluent

Max. Conc. = Maximum predicted concentration in micrograms per meter cubed (µg/m⁻¹) from ISC-LT2 model run output

Unit Risk Factors are: Vinyl Chloride -- 7 80E-05

I_1-Dichloroethane - I_63E-08 Trichloroethene - 2.00E-06

Tetrachloroethene - 5 90E-06

Table 15
Summary of Air Dispersion Calculations
Wayne Reclamation & Recycling

	Description /						CONSTITUENTS					Cumulative
Scenario Number	Sample Date	Input / Output	Tetrachloroethene Carcinogen	Trichloroethene Carcinogen	1,1-Dichloroethene Non-Carcinogen	cis-1,2-Dichloroethene Non-Carcinogen	trans-1,2-Dichloroethene Non-Carcinogen	Vinyl Chloride Carcinogen	I,I,I-Trichloroethane Non-Carcinogen	I,I-Dichloroethane Carcinogen	Toluene Non-Carcinogen	Cancer Risk
143	EFF	(pph[v/v])	140	290	140	740	1	140	140	140	140	
	7/14/2003	(g/s)	0.000R	0.0016	0.000R	0.0041	0.0000	0.0008	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.008	0.004	0.019	0,000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	1.53E-08				2.87E-07		6.00E-11		3.24E-07
144	EFF	(ppb[v/v])	140	330	140	800	1	140	140	140	140	
	8/21/2003	(g/s)	0.0008	0.0018	0.0008	0.0045	0.0000	0,0008	0.0008	0.0008	0,0008	
		Max.Conc.	0.004	0.009	0.004	0.021	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	1.74E-08				2.87E-07		6.00E-11		3.26E-07
145	EFF	(ppb[v/v])	7.4	240	0.66	270	1	11	5.4	2.3	0.66	_
	9/15/2003	(g/s)	0.0000	0.0013	0,0000	0.0015	0.0000	0.0001	0.0000	0.0000	0.0000	
		Max.Conc.	0.000	0.006	0.000	0.007	0.000	0.000	0,000	0.000	0.000	
		ECR	1.15E-09	1.26E-08				2.26E-08		9.86E-13		3.63E-08
146	EFF	(ppb[v/v])	130	230	130	750	1	130	130	130	130	
	10/16/2003	(g/s)	0.0007	0.0013	0.0007	0.0042	0,0000	0,0007	0.0007	0.0007	0.0007	
		Max.Conc.	0.003	0.006	0.003	0.020	0.000	0.003	0.003	0.003	0.003	
		ECR	2.02E-08	1.21E-08				2.67E-07		5.57E-11		2.99E-07
147	EFF	(ppb[v/v])	130	230	130	380	1	130	130	130	130	
	11/7/2003	(g/s)	0.0007	0.0013	0.0007	0.0021	0.0000	0.0007	0.0007	0.0007	0.0007	
		Max.Conc.	0.003	0.006	0.003	0.010	0.000	0.003	0.003	0.003	0.003	
		ECR	2.02E-08	1.21E-08				2.67E-07		5.57E-11		2.99E-07
148	EFF	(ppb[v/v])	130	220	130	1100	1	190	130	130	130	
	12/22/2003	(g/s)	0.0007	0.0012	0.0007	0.0062	0.0000	0.0011	0.0007	0.0007	0.0007	
	<u></u>	Max.Conc.	0.003	0.006	0.003	0.029	0.000	0.005	0.003	0 003	0.003	
		ECR	2.02E-08	1.16E-08				3.90E-07		5.57E-11		4.22E-07
149	EFF	(ppb[v/v])	130	130	130	350	1	150	130	130	130	
	1/29/2004	(g/s)	0.0007	0.0007	0.0007	0.0020	0.0000	0.0008	0.0007	0.0007	0,0007	
	1	Max.Conc.	0.003	0.003	0.003	0.009	0.000	0.004	0.003	0.003	0.003	
		ECR	2.02E-08	6.84E-09				3.08E-07		5.57E-11		3.35E-07
150	EFF	(ppb[v/v])	120	300	120	1200	1	220	120	120	120	
	2/20/2004	(g/s)	0,0007	0.0017	0.0007	0.0067	0.0000	0.0012	0.0007	0.0007	0.0007	
		Max.Conc.	0.003	0.008	0.003	0.032	0.000	0.006	0.003	0.003	0.003	
		ECR	1.86E-08	1.58E-08				4.51E-07		5.14E-11		4.86E-07
151	EFF	(ppb[v/v])	140	140	140	540	1	140	140	140	140	
	3/16/2004	(g/s)	0,0008	0.0008	0,0008	0.0030	0.0000	0.0008	0.0008	0.0008	0.0008	
	I	Max.Conc.	0.004	0.004	0.004	0.014	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	7.36E-09				2.87E-07		6.00E-11		3.16E-07
152	EFF	(ppb[v/v])	7.1	480	3.1	2300	1	350	4,8	18	2.1	
	4/19/2004	(g/s)	0.0000	0.0027	0.0000	0.0129	0.0000	0.0020	0.0000	0.0001	0.0000	
		Max.Conc.	0.000	0.013	0.000	0.060	0,000	0.009	0.000	0.000	0.000	
		ECR	1.10E-09	2.52E-08				7.18E-07		7.72E-12		7.44E-07

Detected constituent concentrations in parts per hillion on a volume per volume basis (ppb[v/v]) from Table 13.

g/s = pph{v/v} x 1,000 / (22,500 x 2 205 x 3,600)

ECR = Excess Cancer Risk = Maximum concentration (in µg/m 1) x Unit Risk Factor

EFF = Sample collected from air treatment system effluent.

Max. Conc. = Maximum predicted concentration in micrograms per meter cubed (µg/m⁻¹) from ISC-LT2 model run output

Unit Risk Factors are:

Vmyl Chloride -- 7 80E-05

1,1-Dichloroethane -- 1 63E-08 Trichloroethene -- 2 00E-06

Tetrachloroethene -- 5 90E-06

Table 15
Summary of Air Dispersion Calculations
Wayne Reclamation & Recycling

	Description /						CONSTITUENTS					Cumulative
Scenario	Sample	Input /	Tetrachloroethene	Trichloroethene	1,1-Dichlornethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	1,1,1-Trichlomethane	1,1-Dichloroethane	Toluene	Cancer
Number	Date	Output	Carcinogen	Carcinogen	Non-Carcinogen	Non-Carcinogen	Non-Carcinogen	Carcinogen	Non-Carcinogen	Carcinogen	Non-Carcinogen	Risk
153	EFF	(ppb[v/v])	150	150	150	510	1	150	150	150	150	
	5/18/2004	(g/s)	8000.0	0.0008	0.0008	0,0029	0.0000	8000.0	0.0008	8000,0	8000.0	
		Max.Conc.	0.004	0.004	0.004	0.013	0,000	0.004	0,004	0.004	0.004	
		ECR	2.33E-08	7.89E-09				3.08E-07		6.43E-11		3.39E-07
154	EFF	(ppb[v/v})	12	260	5.0	1800	1	300	4.3	23	5.8	
	6/23/2004	(g/s)	0.0001	0.0015	0.0000	0.0101	0.0000	0.0017	0.0000	0.0001	0.0000	
		Max.Conc.	0.000	0.007	0.000	0.047	0.000	0.008	0.000	0.001	0.000	
_		ECR	1.86E-09	1.37E-08				6.15E-07		9.86E-12		6.31E-07
155	EFF	(ppb[v/v])	140	250	140	1300	1	260	140	140	140	
	7/30/2004	(g/s)	0.0008	0.0014	0.0008	0.0073	0.0000	0.0015	0.0008	8000.0	0.0008	
		Max.Conc.	0.004	0.007	0.004	0.034	0.000	0.007	0.004	0.004	0.004	
		ECR	2.17E-08	1.32E-08				5.33E-07		6.00E-11	_	5.6RE-07
156	EFF	(ppb[v/v])	130	180	130	1000	1	140	130	130	130	
	8/31/2004	(g/s)	0.0007	0,0010	0,0007	0.0056	0.0000	0.0008	0.0007	0.0007	0.0007	
		Max.Conc.	0.003	0.005	0.003	0.026	0.000	0.004	0.003	0.003	0.003	
		ECR	2.02E-08	9.47E-09				2.87E-07		5.57E-11		3.17E-07
157	EFF	(ppb[v/v])	140	140	140	620	ı	140	140	140	140	
	9/22/2004	(g/s)	0.0008	0.0008	8000.0	0.0035	0.0000	8000.0	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.004	0.004	0.016	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	7.36E-09				2.87E-07		6.00E-11		3.16E-07
158	EFF	(ppb[v/v])	150	180	150	820	1	180	150	150	150	
	10/19/2004	(g/s)	0.0008	0.0010	0.0008	0.0046	0.0000	0.0010	0.0008	8000.0	0.0008	
		Max.Conc.	0.004	0.005	0.004	0.022	0.000	0.005	0.004	0.004	0.004	
		ECR	2.33E-08	9.47E-09				3.69E-07		6.43E-11		4.02E-07
159	EFF	(ppb[v/v])	140	210	140	1000	ı	170	140	140	140	
	11/22/2004	(g/s)	0.0008	0.0012	8000.0	0.0056	0.0000	0.0010	0.0008	0.0008	0.0008	L
_		Max.Conc.	0.004	0.006	0.004	0.026	0.000	0.004	0.004	0.004	0.004	
		<u>EC</u> R	2.17E-08	1.10E-08				3.49E-07		6.00E-11		3.82E-07
160	EFF	(ppb[v/v])	140	780	140	1300	1	140	140	140	140	
	12/17/2004	(g/s)	0.0008	0.0044	0.0008	0.0073	0,0000	0.0008	0.0008	0.0008	0.0008	
		Max.Conc.	0.004	0.021	0.004	0.034	0.000	0.004	0.004	0.004	0.004	
		ECR	2.17E-08	4.10E-08				2.87E-07	[6.00E-11		3.50E-07

Nates:

Detected constituent concentrations in parts per billion on a volume per volume basis (ppb[v/v]) from Table 14. g/s = ppb[v/v] x 1,000 / (22,500 x 2,205 x 3,600).

ECR = Excess Cancer Risk = Maximum concentration (in µg/m 1) x Unit Risk Factor.

EFF = Sample collected from air treatment system effluent

Max. Conc. = Maximum predicted concentration in micrograms per meter cubed (µg/m ⁻¹) from ISC-LT2 model run output

Unit Risk Factors are.

Vinyl Chloride 7.80E-05
1,1-Dichloroethane 1.63E-08
Trichloroethene 2.00E-06
Tetrachloroethene 5.90E-06

Table 16

Volatile Organic Compound Removal Rates - Soil Vapor Extraction and Air Stripper Systems

Wayne Reclamation & Recycling

				-					·		A	ir Stripper ⁽⁴⁾		Sum of
		SE Are	a SVE Sy	stem ⁽¹⁾	AST Area -	SVE Brai	nch Line G (2)	AST Area -	SVE Brai	nch Line H (3)	Groundwater	IN minus	Removal	VOCs
		Air Flow Rate ⁽⁵⁾	Conc.	Removal Rate	Air Flow Rate	Conc.	Removal Rate	Air Flow Rate	Conc.	Removal Rate	Flow Rate	EFF Conc.	Rate	Removed
DATE	CONSTITUENT	(scfm)	(ppb)	(lbs/day)	(scfm)	(ppb)	(lbs/day)	(scfm)	(ppb)	(lbs/day)	(gpm)	(μ g/L)	(lbs/day)	(lbs/day)
April 1998	Trichloroethene	1,350	540	0.35	140	57	0.00	160	100	0.01	30	140	0.05	0.41
April 1998	cis-1,2-DCE	1,350	1,000	0.53	140	110	0.01	160	200	0.01	30	1,190	0.43	0.98
April 1998	Vinyl Chloride	1,350	0	0.00	140	7	0.00	160	0	0.00	30	240	0.09	0.09
	Total			0.88			0.01			0.02			0.57	1.48
October 1998	Trichloroethene	2,575	2,900	3.60	140	48	0.00	160	300	0.02	56	83	0.06	3.69
October 1998	cis-1,2-DCE	2,575	3,500	3.54	140	50	0.00	160	250	0.02	56	254	0.17	3.73
October 1998	Vinyl Chloride	2,575	0	0.00	140	0	0.00	160	0	0.00	56	110	0.07	0.07
	Total			7.14			0.01			0.04			0.30	7.49
April 1999	Trichloroethene	2,730	94	0.12	98	8	0.00	112	21	0.00	71	254	0.22	0.34
April 1999	cis-1,2-DCE	2,730	210	0.23	98	21	0.00	112	47	0.00	71	1,560	1.33	1.56
April 1999	Vinyl Chloride	2,730	15	0.01	98	2	0.00	112	2	0.00	71	210	0.18	0.19
	Total			0.36			0.00			0.00			1.73	2.09
Nov/Dec 1999	Trichloroethene	2,590	540	0.68	187	9	0.00	213	23	0.00	47	120	0.07	0.75
Nov/Dec 1999	cis-1,2-DCE	2,590	1,300	1.32	187	24	0.00	213	89	0.01	47	888	0.50	1.83
Nov/Dec 1999	Vinyl Chloride	2,590	29	0.02	187	4	0.00	213	0	0.00	47	120	0.07	0.09
	Total			2.01			0.00			0.01			0.64	2.66

⁽I) Volatile organic compound (VOC) removal rate based on air flow rate and VOC concentrations measured in combined Southeast (SE) Area soil vapor extraction (SVE) line with air sparging off.

⁽²⁾ VOC removal rate based on air flow rate and VOC concentrations measured in Aboveground Storage Tank (AST) Area Branch Line G.

⁽³⁾ VOC removal rate based on air flow rate and VOC concentrations measured in AST Area Branch Line H.

⁽⁴⁾ VOC removal rate based on groundwater flow rate and difference between groundwater influent and effluent concentrations.

⁽⁵⁾ SE Area air flow rate based on sum of the six branch line field measurements.

IN = Influent; EFF = effluent; Conc. = concentration; scfm = standard cubic feet per minute; ppb = parts per billion; µg/L = micrograms per liter; lbs = pounds; gpm = gallons per minute; DCE = dichloroethene.

Table 16

Volatile Organic Compound Removal Rates - Soil Vapor Extraction and Air Stripper Systems

Wayne Reclamation & Recycling

	T	1									^	ir Stripper ⁽⁴)	Sum of
		SE Are	sVE Sy	stem ⁽¹⁾	AST Area -	SVE Bra	nch Line G (2)	AST Area -	SVE Bra	nch Line H (3)	Groundwater	IN minus	Removal	VOCs
		Air Flow Rate ⁽⁵⁾	Conc.	Removal Rate	Air Flow Rate	Conc.	Removal Rate	Air Flow Rate	Conc.	Removal Rate	Flow Rate	EFF Conc.	Rate	Remove
DATE	CONSTITUENT	(scfm)	(ppb)	(lbs/day)	(scfm)	(ppb)	(lbs/day)	(scfm)	(ppb)	(lbs/day)	(gpm)	(μ g /L)	(lbs/day)	(lbs/day)
April 2000	Trichloroethene	1,500	710	0.51	187	590	0.05	213	50	0.01	51	250	0.15	0.73
April 2000	cis-1,2-DCE	1,500	1,400	0.82	187	330	0.02	213	150	0.01	51	1,450	0.89	1.75
April 2000	Vinyl Chloride	1,500	0	0.00	187	0	0.00	213	0	0.00	51	170	0.10	0.10
	Total			1.34		_	0.08			0.02			1.15	2.58
October 2000	Trichloroethene	1,500	750	0.54	187	710	0.06	213	78	0.01	55	120	0.08	0.69
October 2000	cis-1,2-DCE	1,500	1,300	0.77	187	300	0.02	213	190	0.02	55	1,580	1.04	1.85
October 2000	Vinyl Chloride	1,500	0	0.00	187	0	0.00	213	0	0.00	55	170	0.11	0.11
	Total			1.31			0.09			0.02			1.24	2.65
April 2001	Trichloroethene	1,600	140	0.11	105	57	0.00	120	48	0.00	65	190	0.15	0.26
April 2001	cis-1,2-DCE	1,600	150	0.09	105	21	0.00	120	70	0.00	65	1,230	0.96	1.06
April 2001	Vinyl Chloride	1,600	0	0.00	105	0	0.00	120	0	0.00	65	146	0.11	0.11
	Total			0.20			0.00			0.01			1.22	1.44
Oct/Nov 2001	Trichloroethene	1,600	410	0.32	225	150	0.02	225	0	0.00	90	241	0.26	0.59
Oct/Nov 2001	cis-1,2-DCE	1,600	1,500	0.94	225	130	0.01	225	0	0.00	90	1,447	1.56	2.52
Oct/Nov 2001	Vinyl Chloride	1,600	0	0.00	225	3	0.00	225	0	0.00	90	121	0.13	0.13
	Total			1.26			0.03			0.00			1.96	3.24

⁽¹⁾ Volatile organic compound (VOC) removal rate based on air flow rate and VOC concentrations measured in combined Southeast (SE) Area soil vapor extraction (SVE) line with air sparging off.

⁽²⁾ VOC removal rate based on air flow rate and VOC concentrations measured in Aboveground Storage Tank (AST) Area Branch Line G.

⁽³⁾ VOC removal rate based on air flow rate and VOC concentrations measured in AST Area Branch Line H.

⁽⁴⁾ VOC removal rate based on groundwater flow rate and difference between groundwater influent and effluent concentrations.

⁽⁵⁾ SE Area air flow rate based on sum of the six branch line field measurements.

IN = Influent; EFF = effluent; Conc. = concentration; softn = standard cubic feet per minute; ppb = parts per billion; µg/L = micrograms per liter; lbs = pounds; gpm = gallons per minute; DCE = dichloroethene.

Table 16

Volatile Organic Compound Removal Rates - Soil Vapor Extraction and Air Stripper Systems

Wayne Reclamation & Recycling

											A	ir Stripper ⁽⁴⁾		Sum of
		SE Are	SVE Sy	stem ⁽¹⁾	AST Area -	SVE Brai	nch Line G (2)	AST Area -	SVE Brai	nch Line H (3)	Groundwater	IN minus	Removal	VOCs
		Air Flow Rate ⁽⁵⁾	Conc.	Removal Rate	Air Flow Rate	Conc.	Removal Rate	Air Flow Rate	Conc.	Removal Rate	Flow Rate	EFF Conc.	Rate	Removed
DATE	CONSTITUENT	(scfm)	(ppb)	(lbs/day)	(scfm)	(ppb)	(lbs/day)	(scfm)	(ppb)	(lbs/day)	(gpm)	(μg/L)	(lbs/day)	(lbs/day)
April 2002	Trichloroethene	2,600	330	0.41	245	22	0.00	245	48	0.01	65	74	0.06	0.48
April 2002	cis-1,2-DCE	2,600	370	0.38	245	27	0.00	245	60	0.01	65	692	0.54	0.93
April 2002	Vinyl Chloride	2,600	18	0.01	245	0.92	0.00	245	2.1	0.00	65	160	0.12	0.14
	Total			0.80		·	0.01			0.01			0.72	1.54
October 2002	Trichloroethene	1,200	430	0.25	280	180	0.02	(susp)	0	0.00	44	300	0.16	0.43
October 2002	cis-1,2-DCE	1,200	790	0.37	280	0	0.00	(susp)	0	0.00	44	1,359	0.72	1.09
October 2002	Vinyl Chloride	1,200	0	0.00	280	0	0.00	(susp)	0	0.00	44	220	0.12	0.12
	Total			0.62			0.02			0.00			0.99	1.64
April 2003	Trichloroethene	1,300	270	0.17	640	280	0.09	(susp)	0	0.00	50	268	0.16	0.42
April 2003	cis-1,2-DCE	1,300	470	0.24	640	190	0.05	(susp)	0	0.00	50	1,405	0.84	1.13
April 2003	Vinyl Chloride	1,300	0	0.00	640	0	0.00	(susp)	0	0.00	50	134	0.08	0.08
	Total			0.41	_		0.13			0.00			1.09	1.63
October 2003	Trichloroethene	2,100	240	0.24	420	260	0.05	(susp)	0	0.00	44	180	0.10	0.39
October 2003	cis-1,2-DCE	2,100	340	0.28	420	0	0.00	(susp)	0	0.00	44	1,694	0.90	1.18
October 2003	Vinyl Chloride	2,100	0	0.00	420	0	0.00	(susp)	0	0.00	44	140.7	0.07	0.07
	Total			0.52			0.05			0.00			1.07	1.64

⁽¹⁾ Volatile organic compound (VOC) removal rate based on air flow rate and VOC concentrations measured in combined Southeast (SE) Area soil vapor extraction (SVE) line with air sparging off.

⁽²⁾ VOC removal rate based on air flow rate and VOC concentrations measured in Aboveground Storage Tank (AST) Area Branch Line G.

⁽³⁾ VOC removal rate based on air flow rate and VOC concentrations measured in AST Area Branch Line H.

⁽⁴⁾ VOC removal rate based on groundwater flow rate and difference between groundwater influent and effluent concentrations.

⁽⁵⁾ SE Area air flow rate based on sum of the six branch line field measurements.

IN = Influent; EFF = effluent; Conc. = concentration; scfm = standard cubic feet per minute; ppb = parts per billion; μg/L = micrograms per liter; lbs = pounds; gpm = gallons per minute; DCE = dichloroethene. (susp) = The operation of Branch Line H was suspended in October 2002.

Table 16

Volatile Organic Compound Removal Rates - Soil Vapor Extraction and Air Stripper Systems

Wayne Reclamation & Recycling

					_						A	Air Stripper ⁽⁴⁾		
	1	SE Area SVE System (1)			AST Area - SVE Branch Line G (2)			AST Area - SVE Branch Line H (3)			Groundwater	IN minus	Removal	VOCs
	CONSTITUENT	Air Flow Rate ⁽⁵⁾ (scfm)	Conc.	Removal Rate (lbs/day)	Air Flow Rate (scfm)	Conc. (ppb)	Removal Rate (lbs/day)	Air Flow Rate (scfm)	Conc. (ppb)	Removal Rate (lbs/day)	Flow Rate (gpm)	EFF Conc. (μg/L)	Rate (lbs/day)	Removed (lbs/day)
DATE														
April 2004	Trichloroethene	1,000	0	0.00	470	360	0.08	(susp)	0	0.00	67	149	0.12	0.20
April 2004	cis-1,2-DCE	1,000	160	0.06	470	160	0.03	(susp)	0	0.00	67	690	0.56	0.65
April 2004	Vinyl Chloride	1,000	0	0.00	470	0	0.00	(susp)	0	0.00	67	147.9	0.12	0.12
	Total			0.06			0.11			0.00			0.79	0.97
October 2004	Trichloroethene	900	180	0.08	470	350	0.08	(susp)	0	0.00	48	336	0.19	0.35
October 2004	cis-1,2-DCE	900	330	0.12	470	170	0.03	(susp)	0	0.00	48	772	0.45	0.59
October 2004	Vinyl Chloride	900	0	0.00	470	18.4	0.00	(susp)	0	0.00	48	260	0.15	0.15
	Total			0.19			0.11			0.00			0.79	1.10

IN = Influent; EFF = effluent; Conc. = concentration; scfm = standard cubic feet per minute; ppb = parts per billion; µg/L = micrograms per liter; lbs = pounds; gpm = gallons per minute; DCE = dichloroethene. (susp) = The operation of Branch Line H was suspended in October 2002.

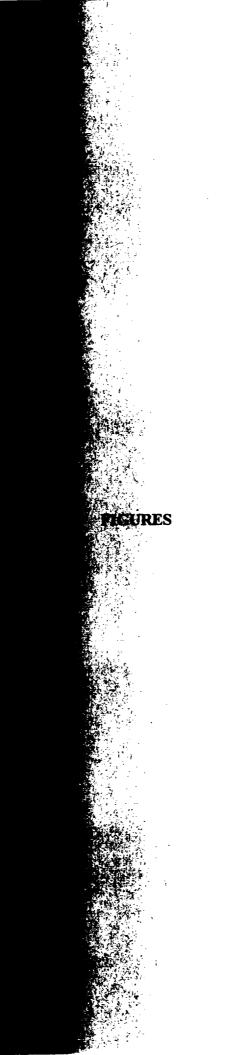
⁽¹⁾ Volatile organic compound (VOC) removal rate based on air flow rate and VOC concentrations measured in combined Southeast (SE) Area soil vapor extraction (SVE) line with air sparging off.

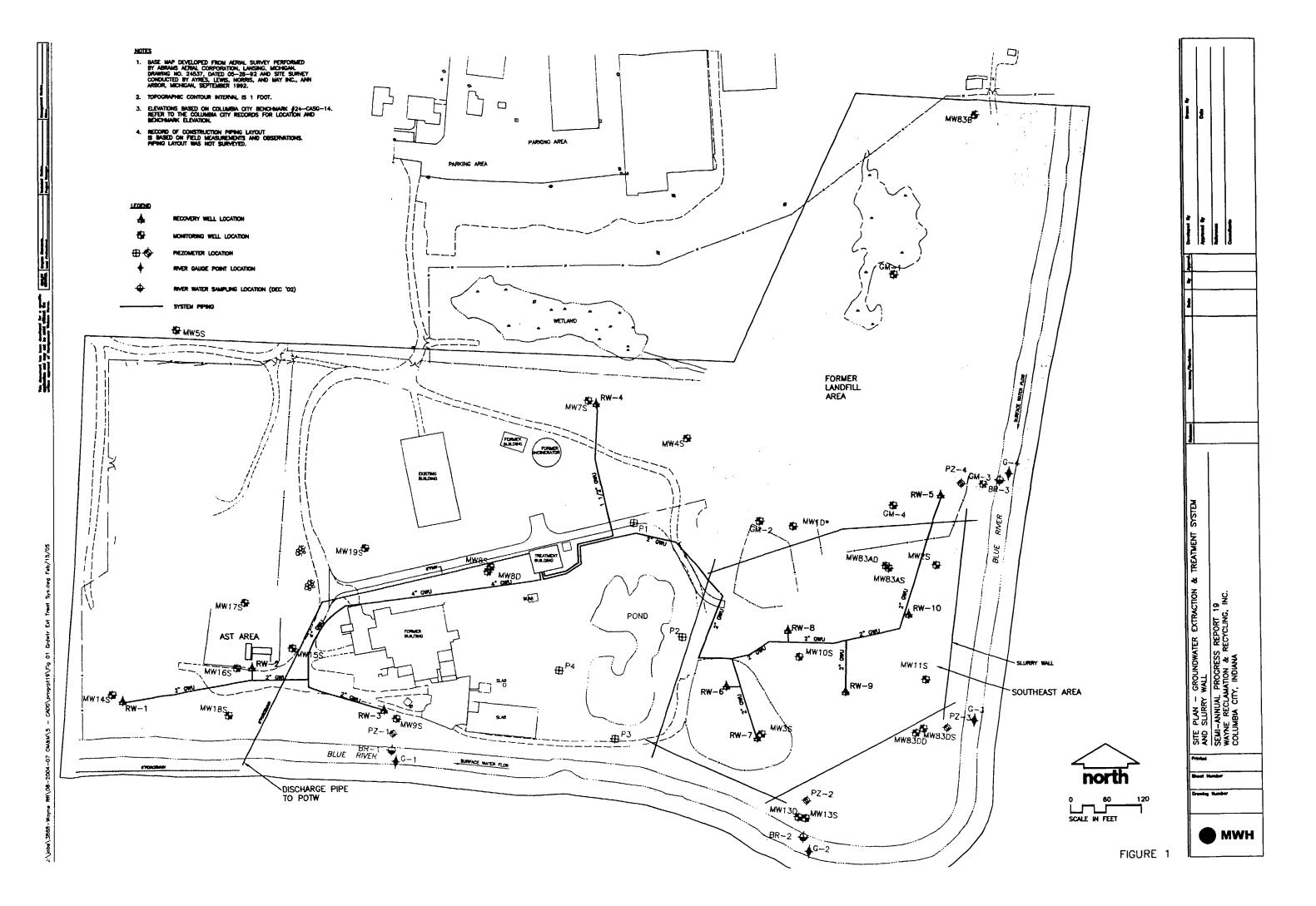
⁽²⁾ VOC removal rate based on air flow rate and VOC concentrations measured in Aboveground Storage Tank (AST) Area Branch Line G.

⁽³⁾ VOC removal rate based on air flow rate and VOC concentrations measured in AST Area Branch Line H.

⁽⁴⁾ VOC removal rate based on groundwater flow rate and difference between groundwater influent and effluent concentrations.

⁽⁵⁾ SE Area air flow rate based on sum of the six branch line field measurements.





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Figure 4
Summary of Groundwater Treatment and SVE Systems Combined Air System Effluent Data
Wayne Reclamation & Recycling

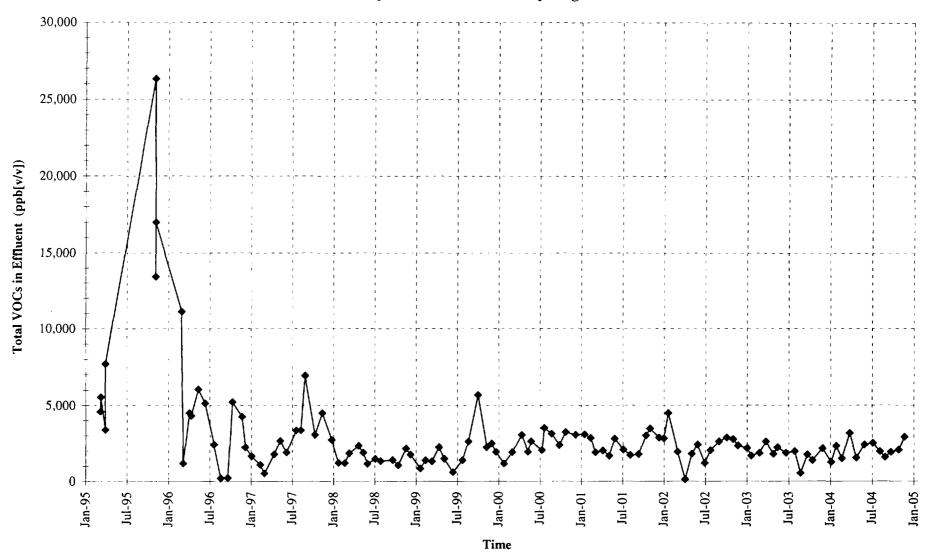


Figure 5

Effect of Air Sparge on Soil Vapor Extraction Volatile Organic Compound Concentrations, Southeast Area

Wayne Reclamation & Recycling

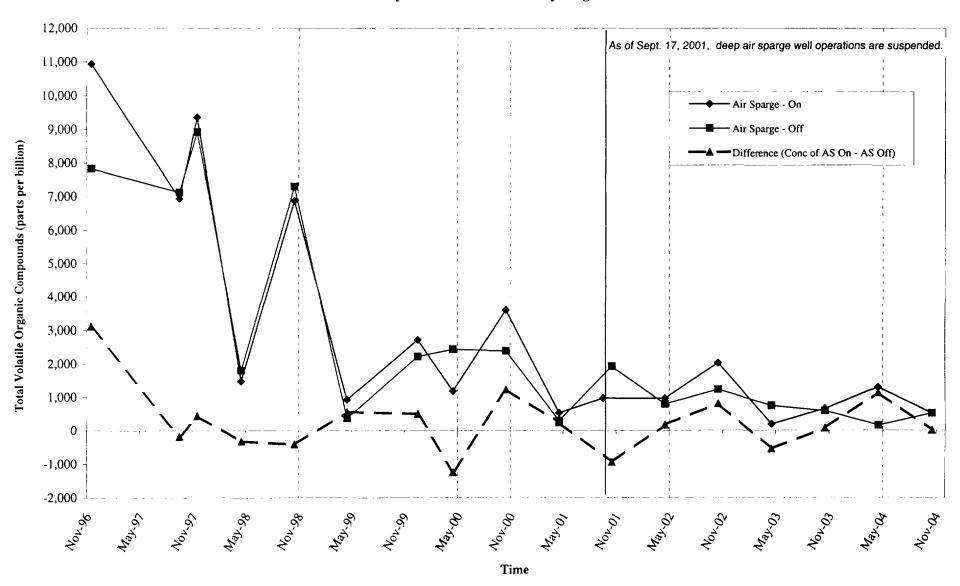


Figure 6
Cumulative and Sustained Groundwater Recovery
Wayne Reclamation & Recycling

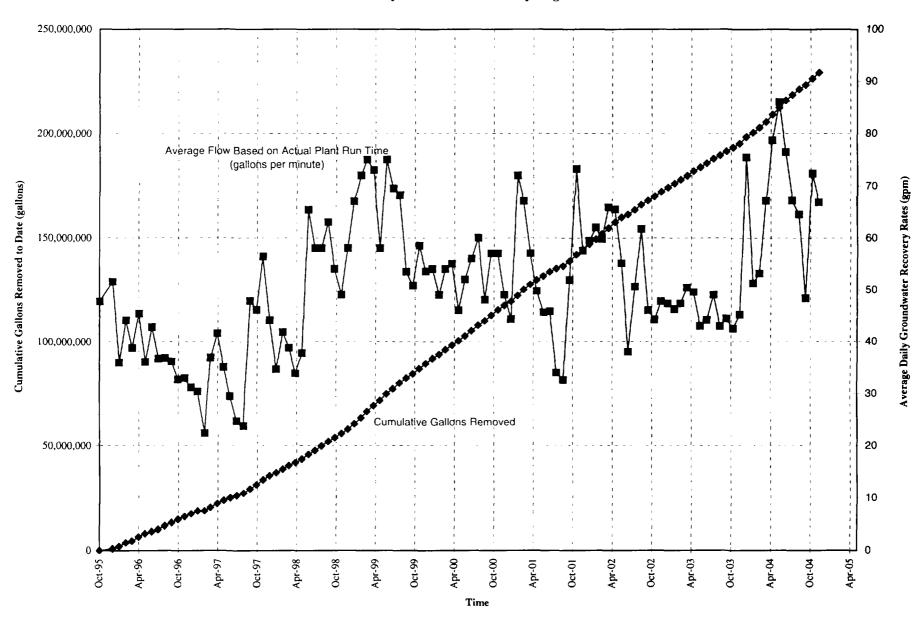
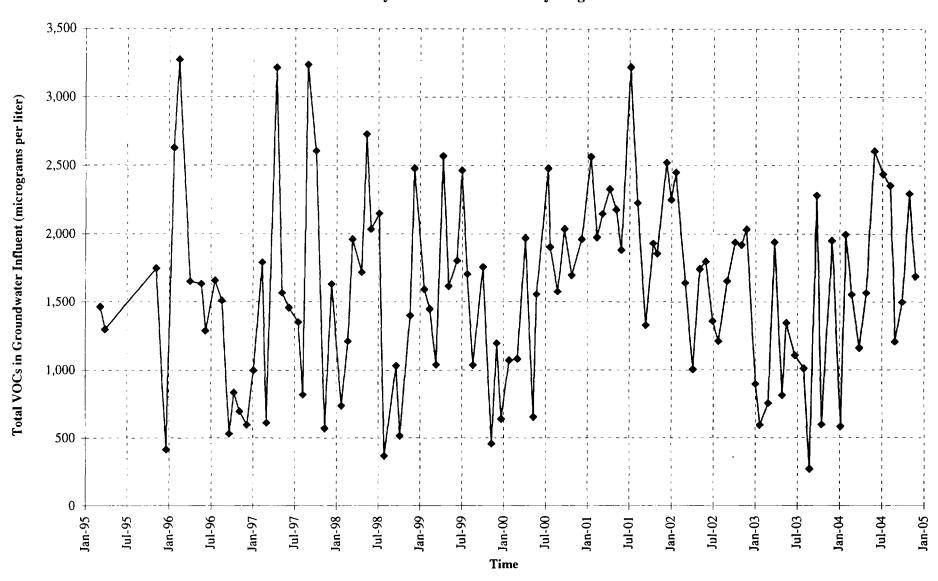
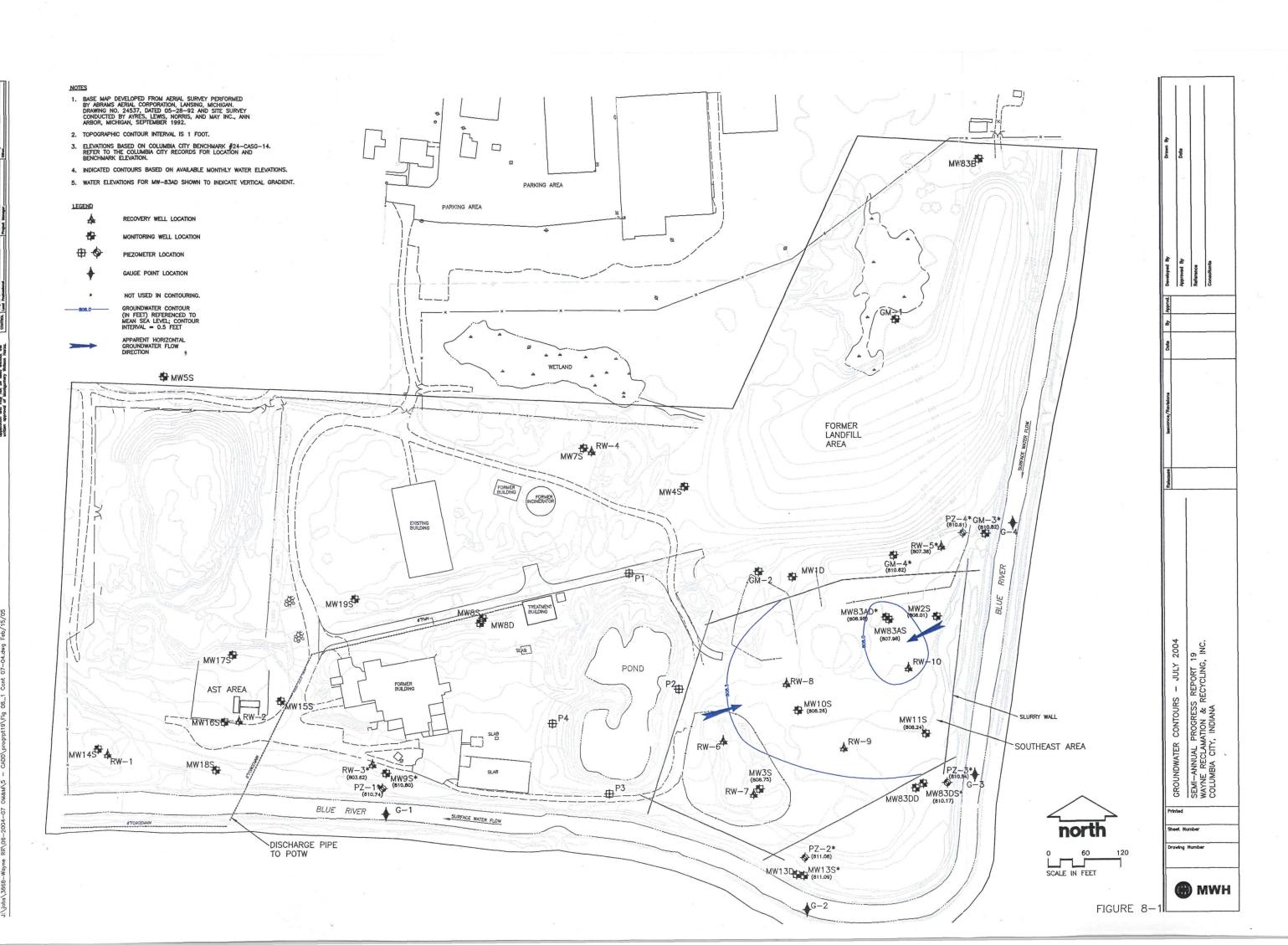
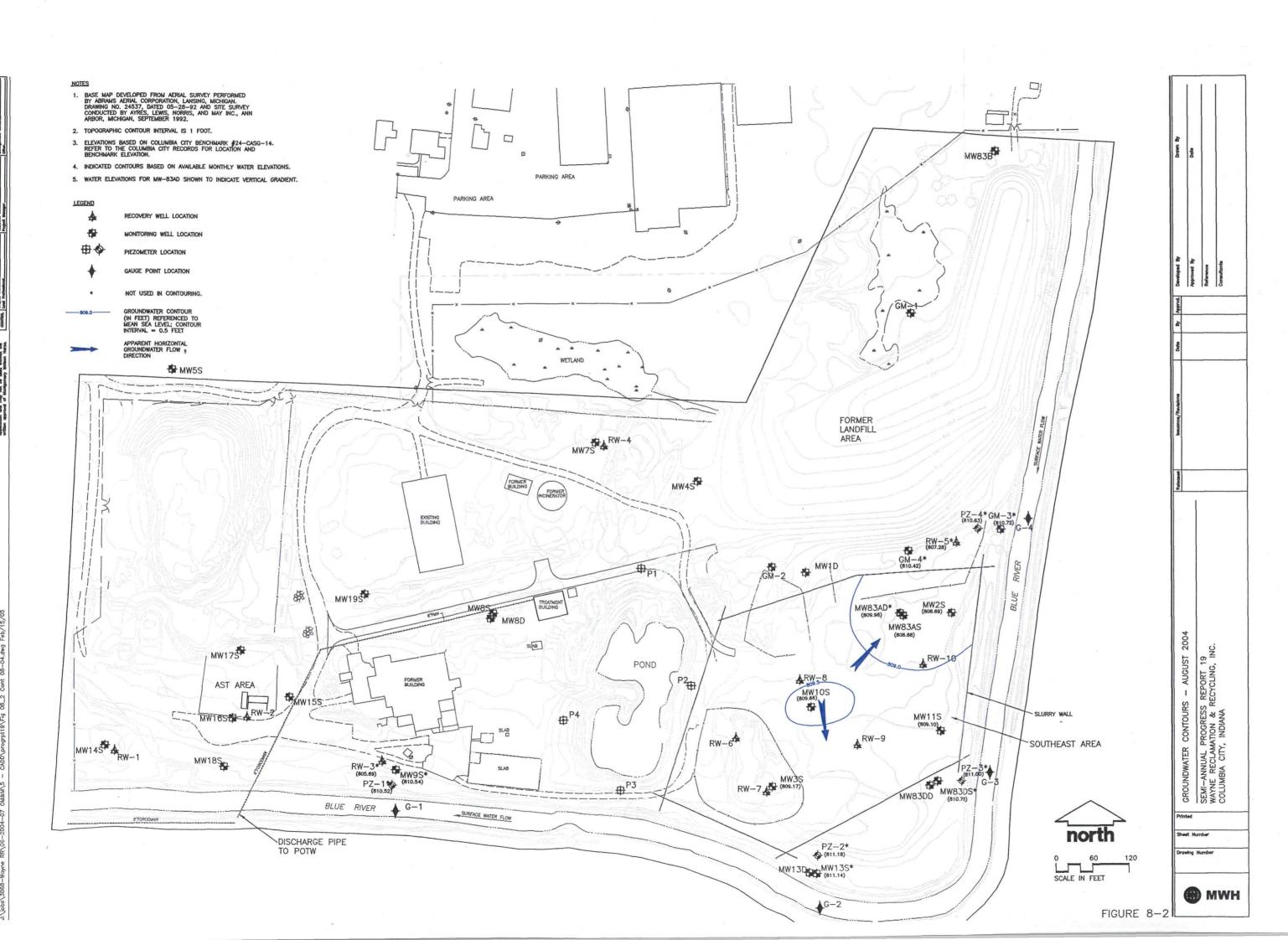


Figure 7
Summary of Groundwater Treatment System Influent Data
Wayne Reclamation & Recycling







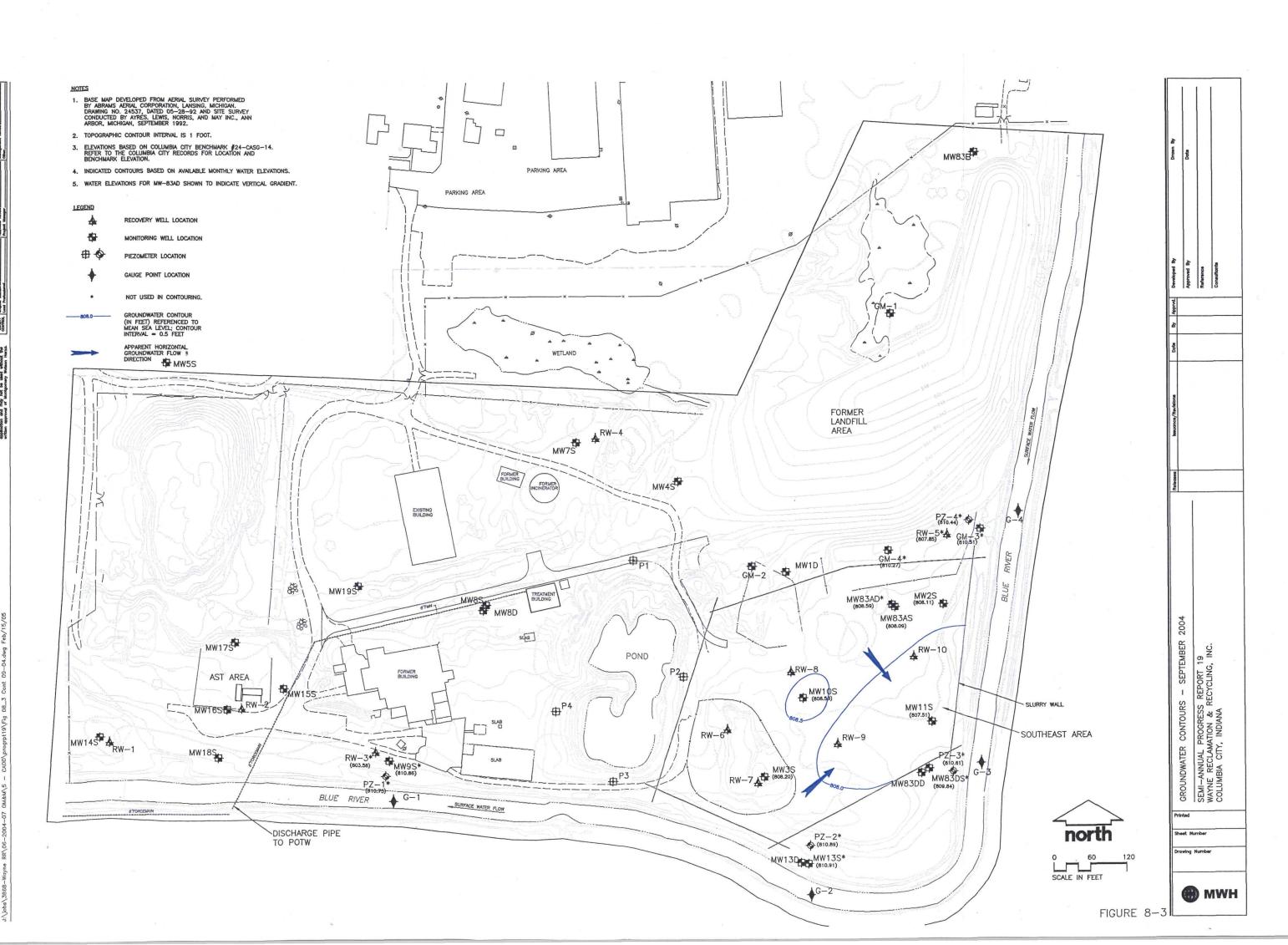


FIGURE 8-4 L

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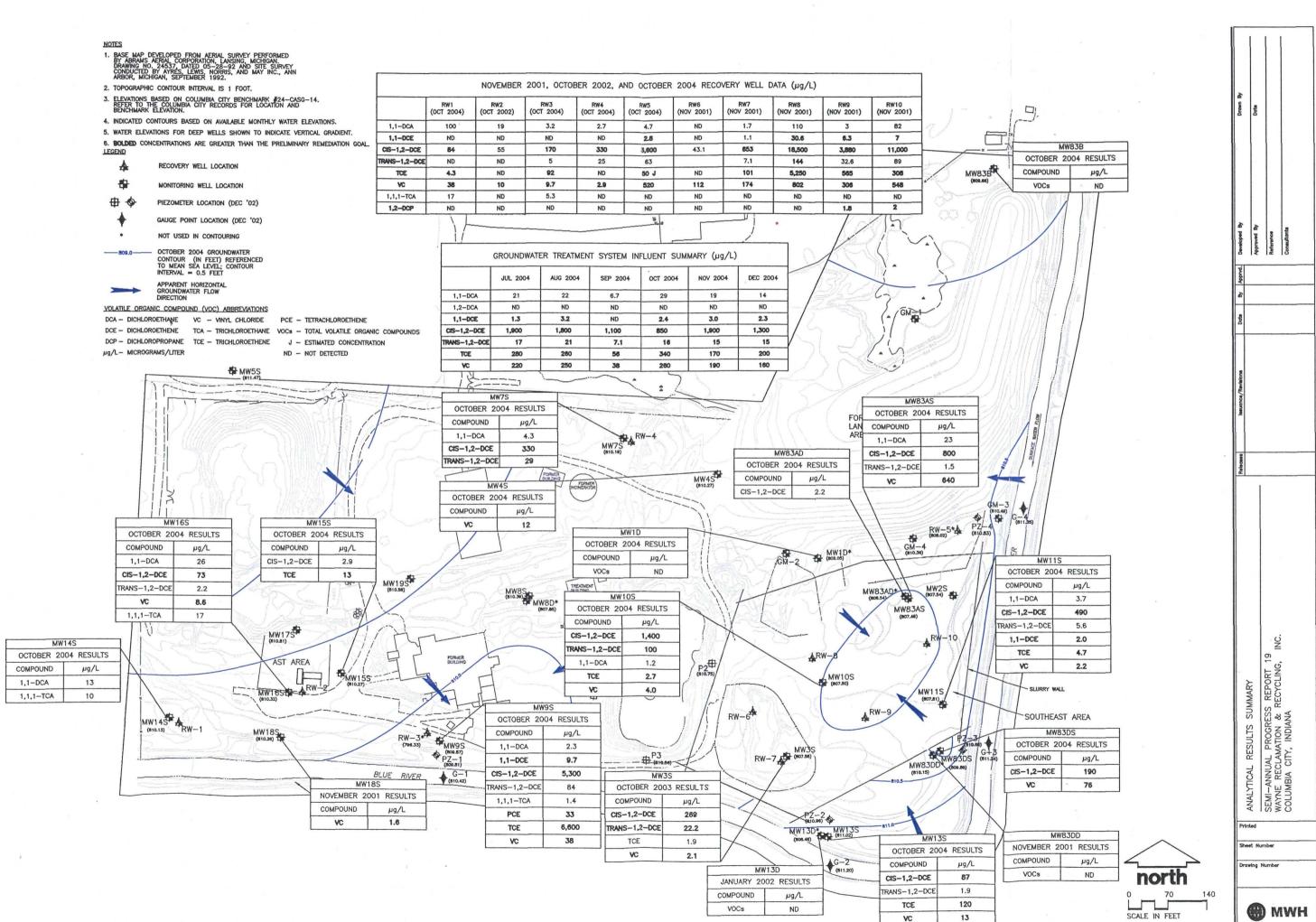
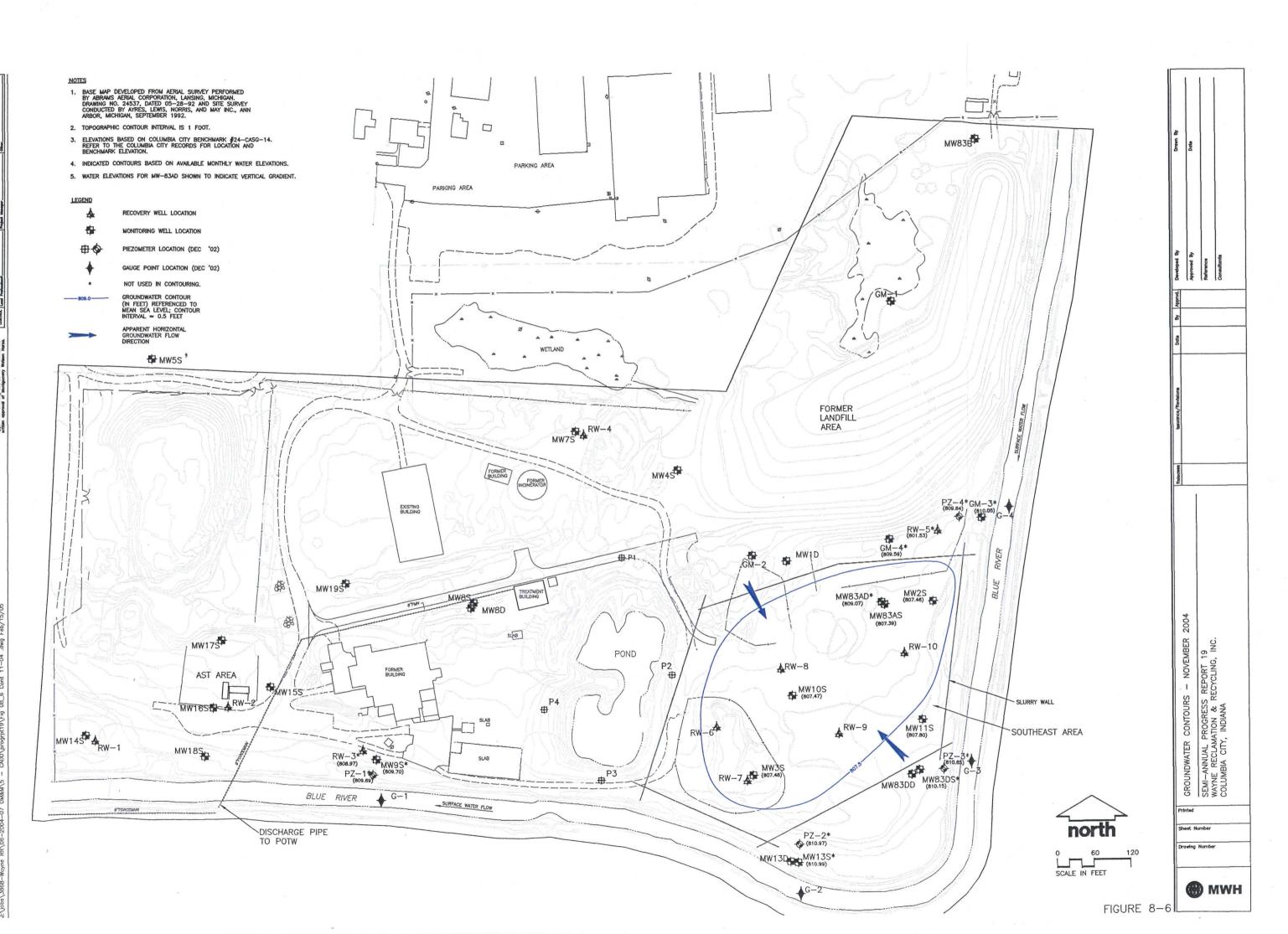
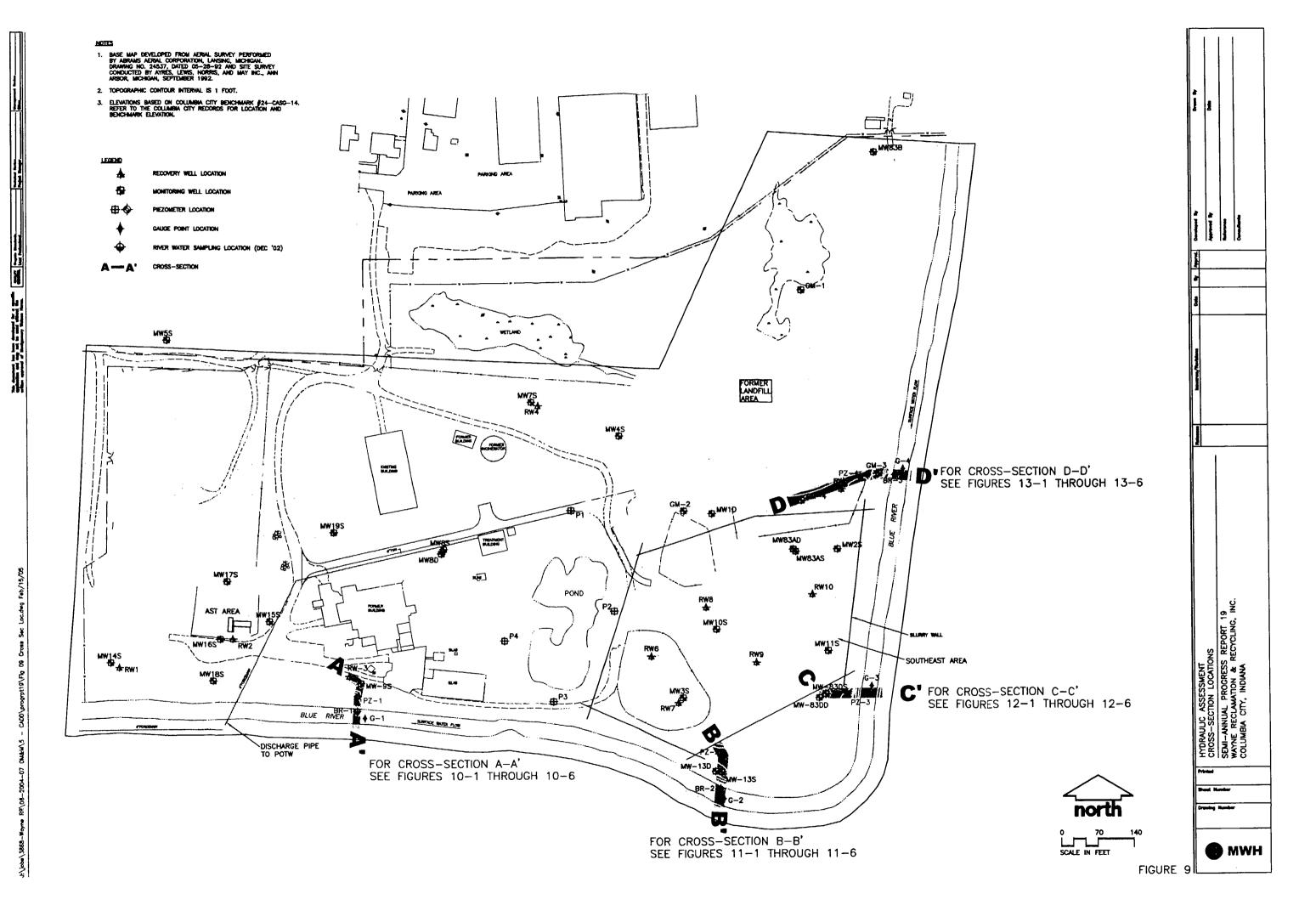
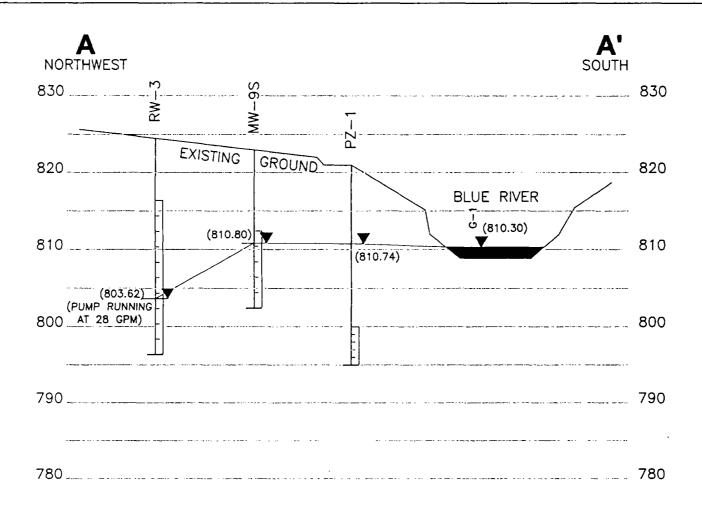


FIGURE 8-5



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LEGEND:

MW-9S MONITORING WELL

PZ-1 PIEZOMETER

RW-3 RECOVERY WELL

G-1 RIVER GAUGE POINT

800 ELEVATION (FEET)

GPM GALLONS PÈR MÍNUTE

WATER LEVEL

SCREENED INTERVAL

SCALE:

HORIZONTAL: 1"=25'

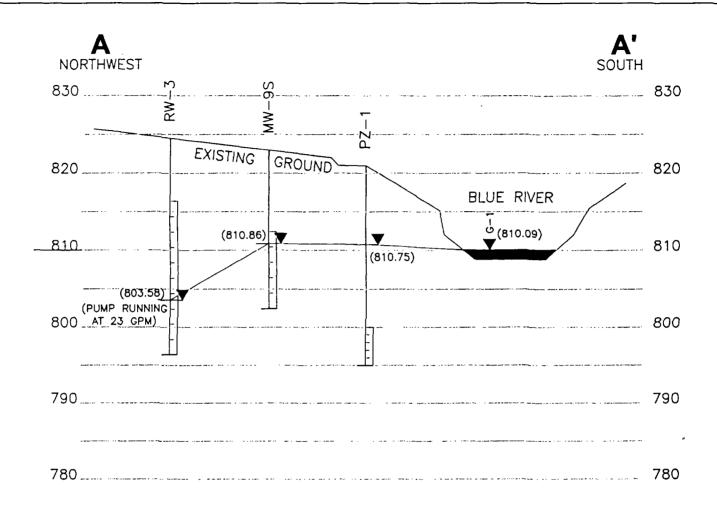
VERTICAL: TWO (2) TIME

TWO (2) TIMES EXAGGERATION

SEMI-ANNUAL PROGRESS REPORT 19 WAYNE RECLAMATION & RECYCLING, INC. COLUMBIA CITY, INDIANA

CROSS-SECTION A-A'
JULY 2004





LEGEND:

MW-9S MONITORING WELL

PZ-1 PIEZOMETER

RW-3 RECOVERY WELL

G-1 RIVER GAUGE POINT

ELEVATION (FEET)

GALLONS PÈR MINUTE

WATER LEVEL

SCREENED INTERVAL

SCALE:

HORIZONTAL: 1"=25'

VERTICAL:

TWO (2) TIMES EXAGGERATION

SEMI-ANNUAL PROGRESS REPORT 19
WAYNE RECLAMATION & RECYCLING, INC.
COLUMBIA CITY, INDIANA

CROSS-SECTION A-A' SEPTEMBER 2004



LEGEND:

MW-9S MONITORING WELL

PZ-1 PIEZOMETER

RW-3 RECOVERY WELL

G-1 RIVER GAUGE POINT

ELEVATION (FEET)

GALLONS PÈR MINUTE GPM

WATER LEVEL

SCREENED INTERVAL

SCALE:

HORIZONTAL: 1"=25'

VERTICAL:

TWO (2) TIMES EXAGGERATION

SEMI-ANNUAL PROGRESS REPORT 19 WAYNE RECLAMATION & RECYCLING, INC. COLUMBIA CITY, INDIANA

CROSS-SECTION A-A'
OCTOBER 2004



RW-3 RECOVERY WELL G-1 RIVER GAUGE POINT

800 ELEVATION (FEET) GPM GALLONS PER MINUTE

> WATER LEVEL SCREENED INTERVAL

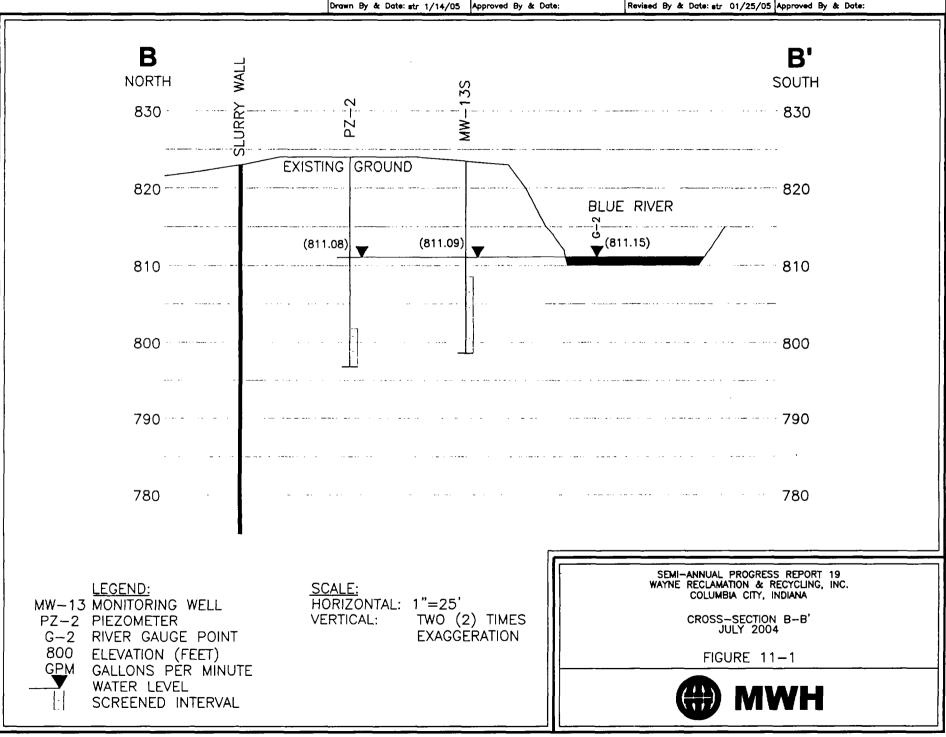
HORIZONTAL: 1"=25'

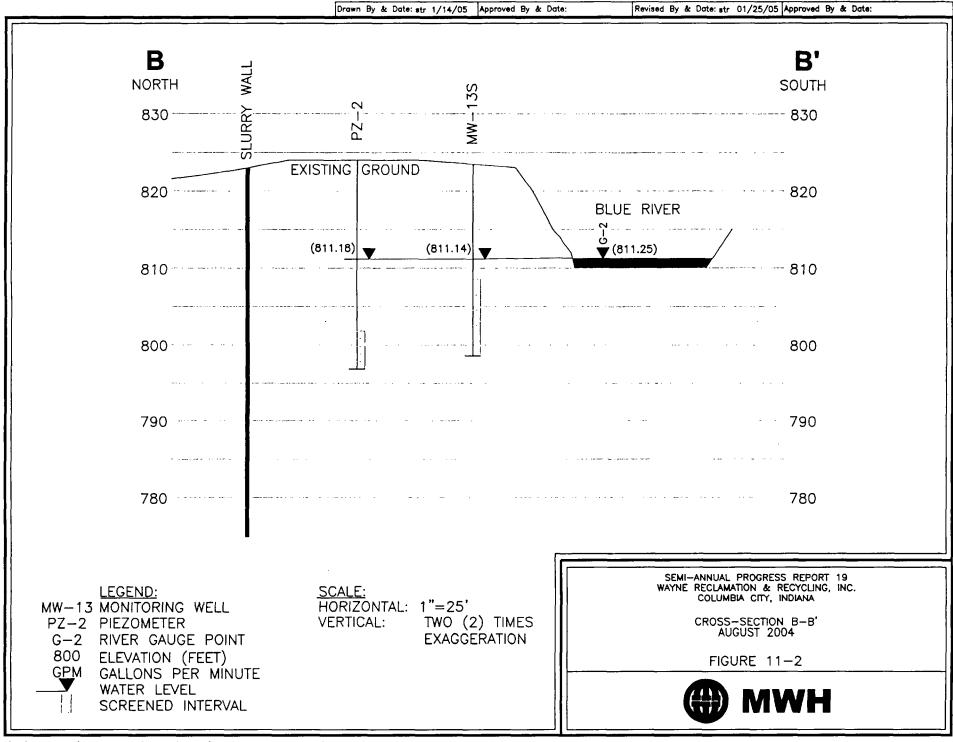
VERTICAL:

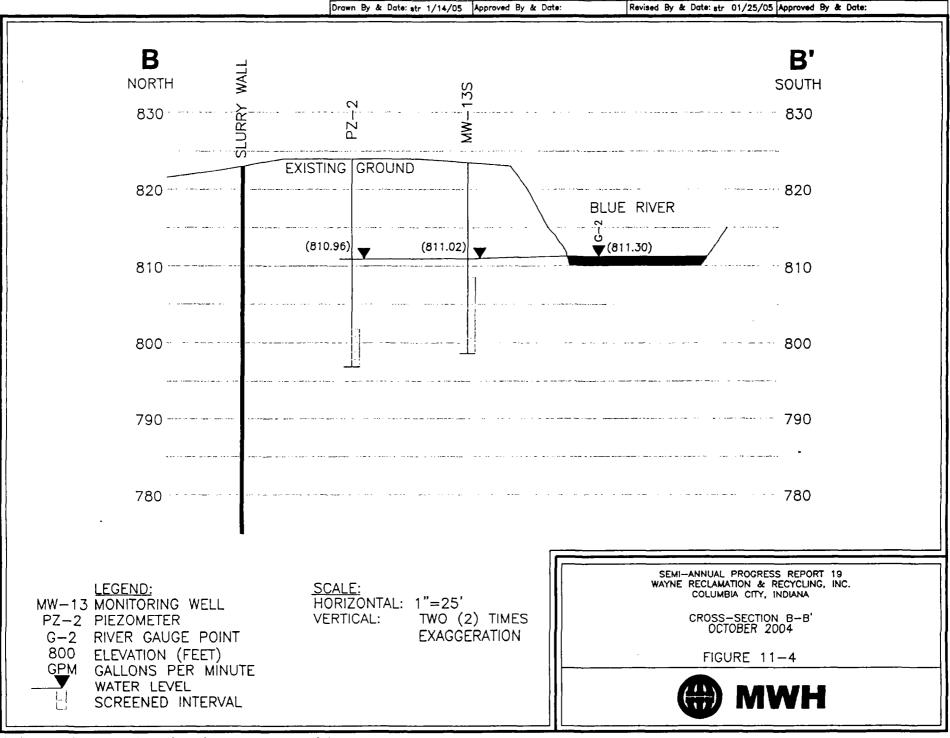
TWO (2) TIMES EXAGGERATION

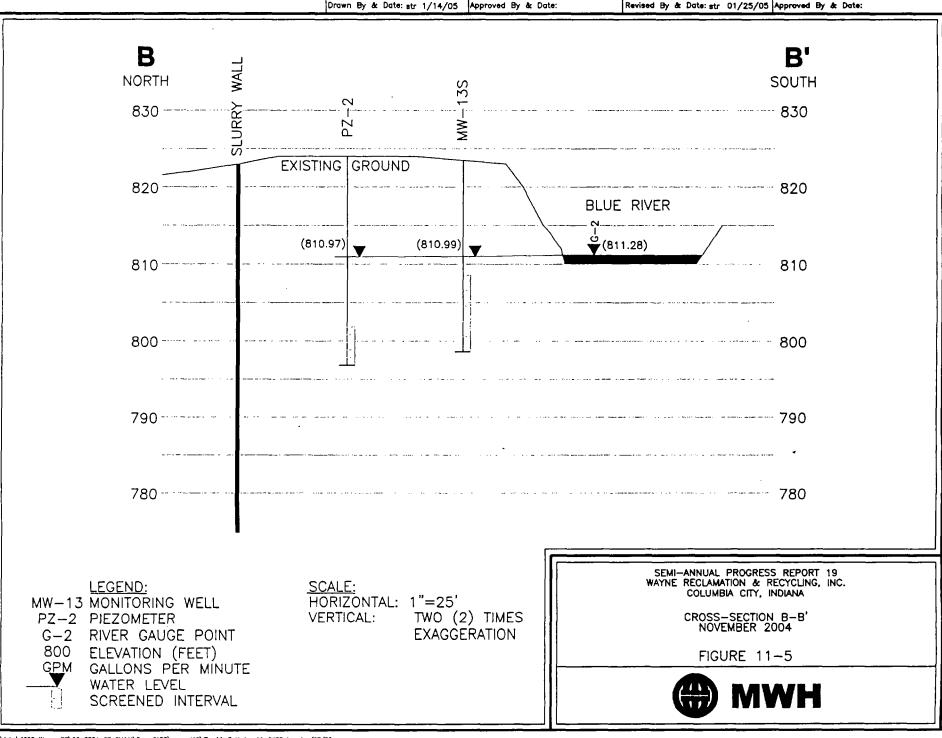
CROSS-SECTION A-A' NOVEMBER 2004

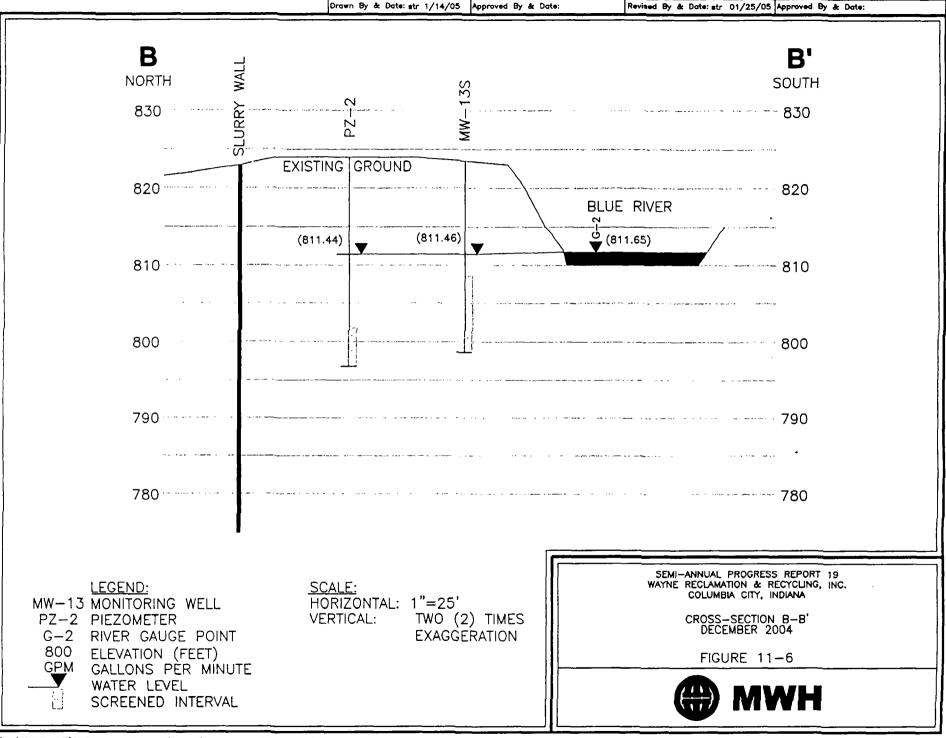


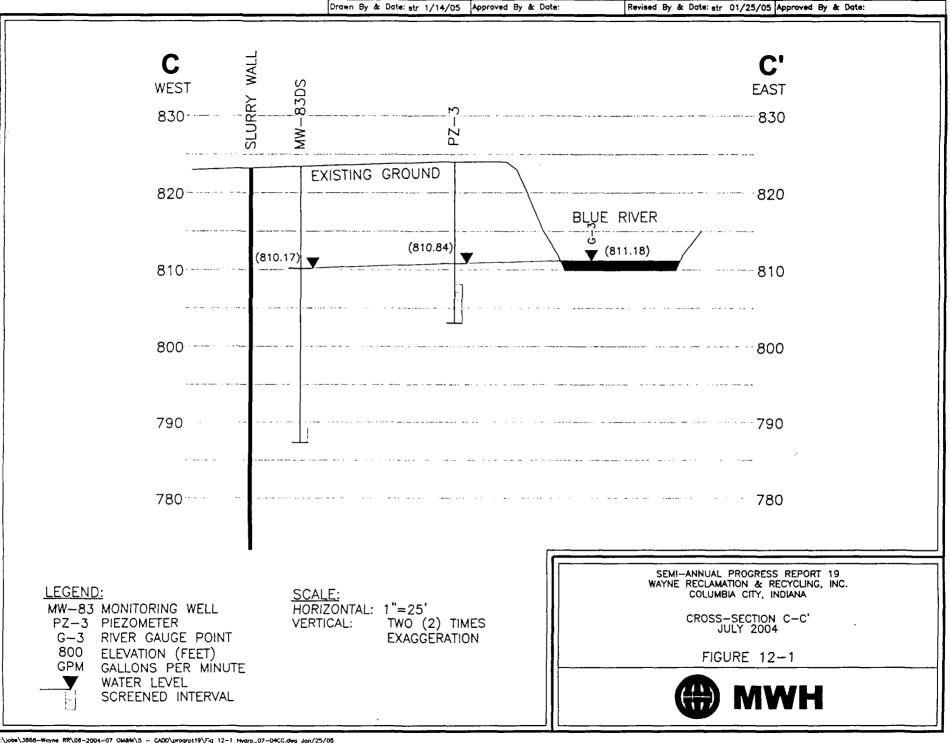


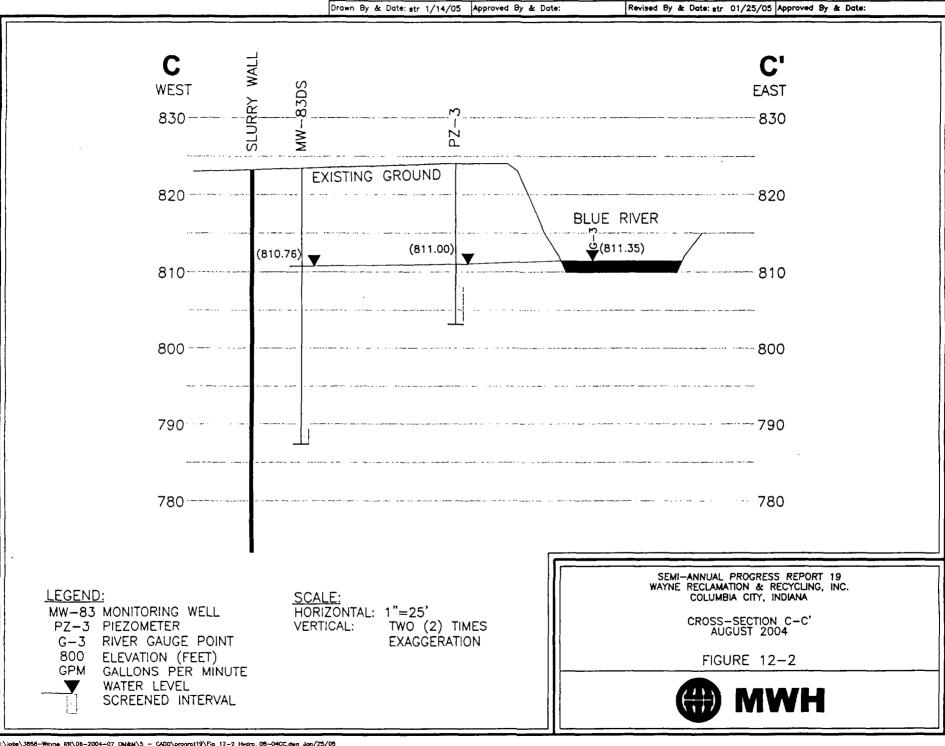


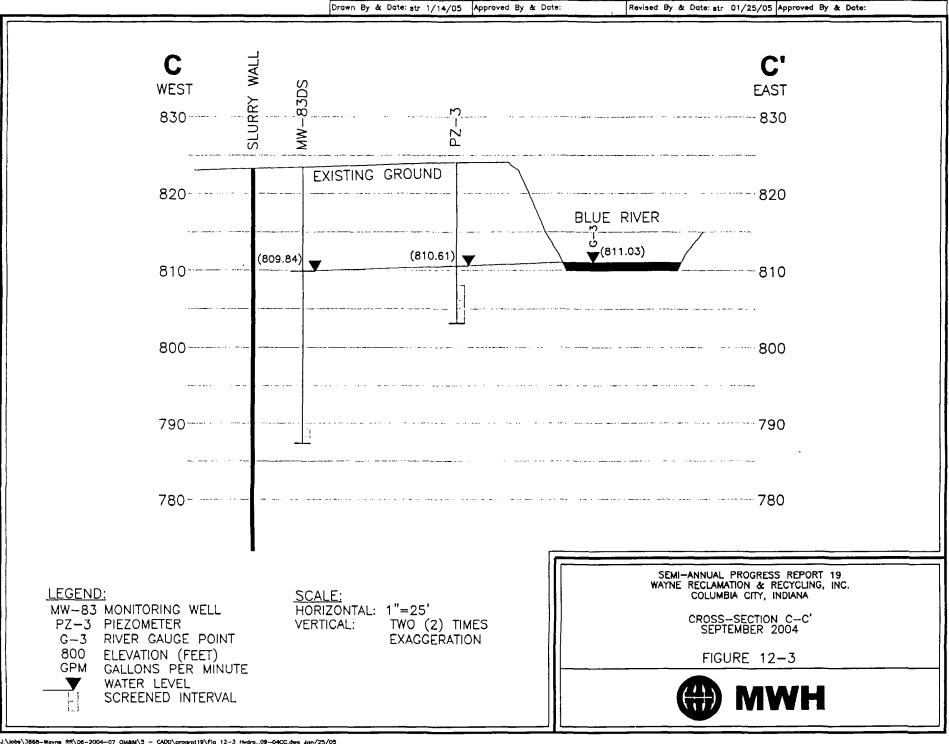


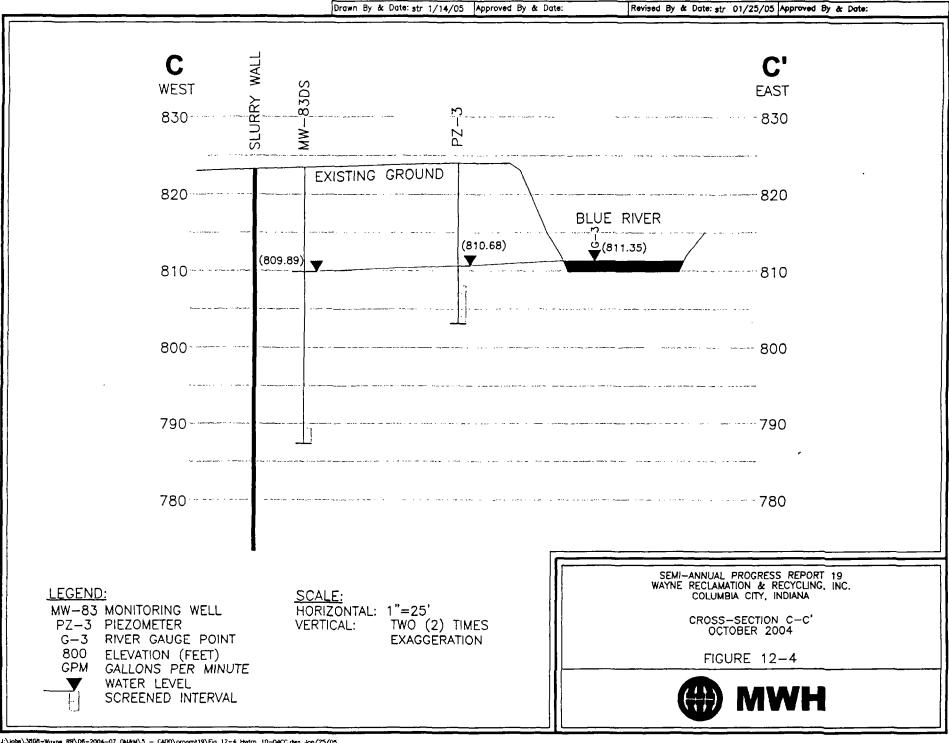


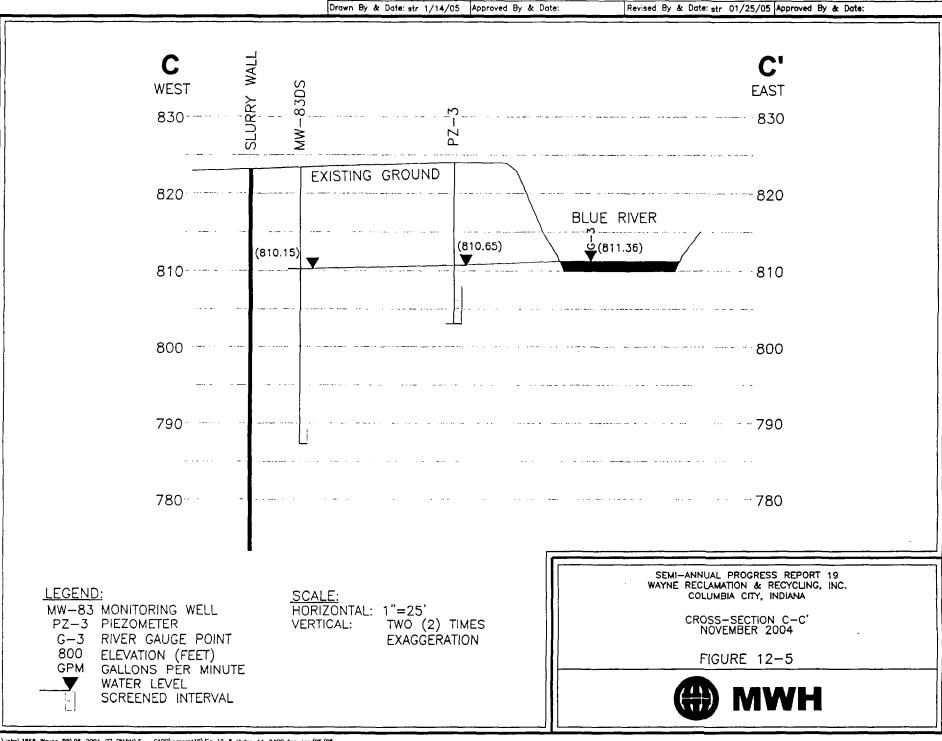


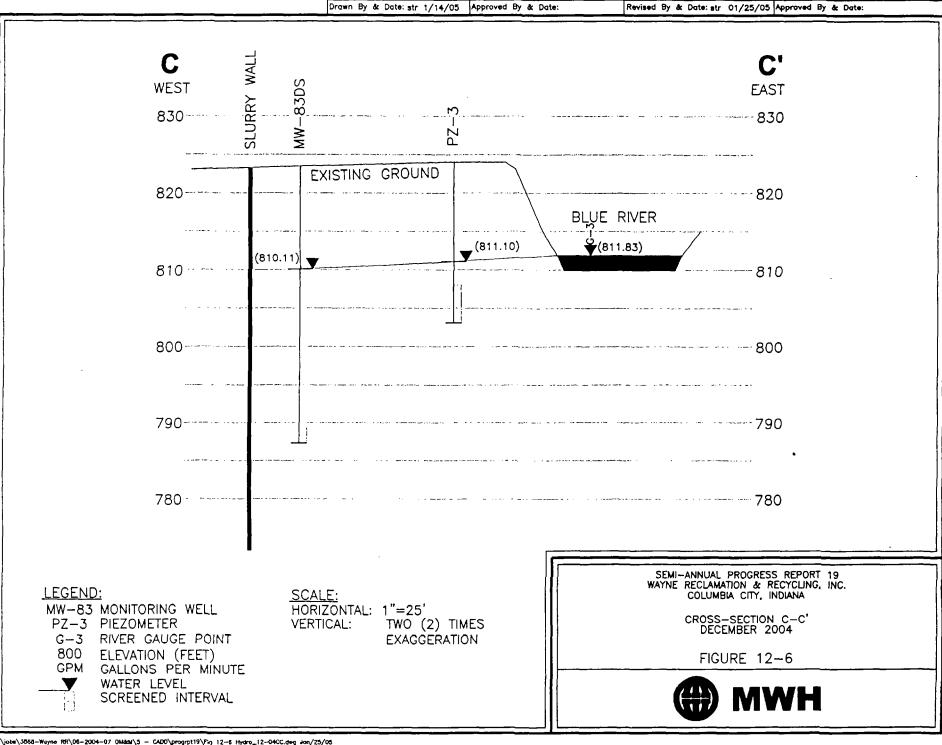


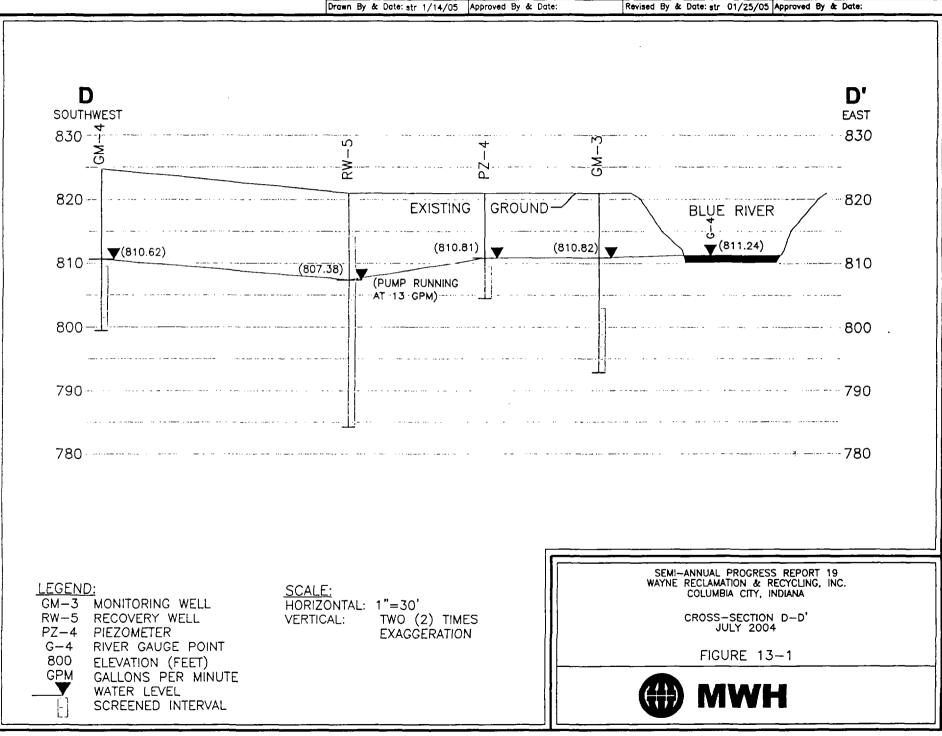


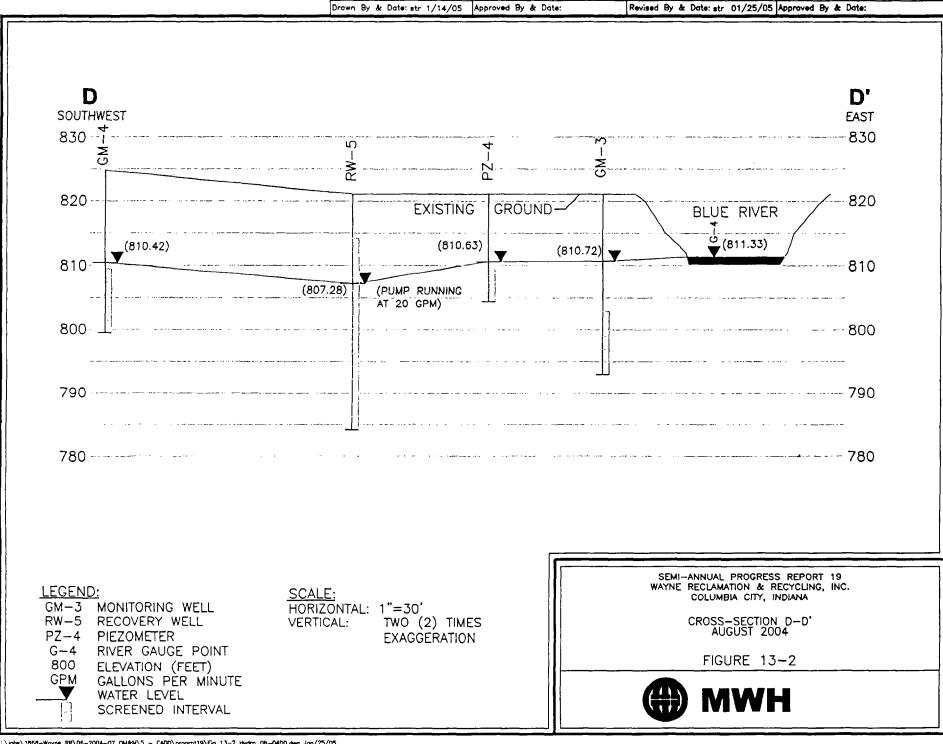












SCREENED INTERVAL

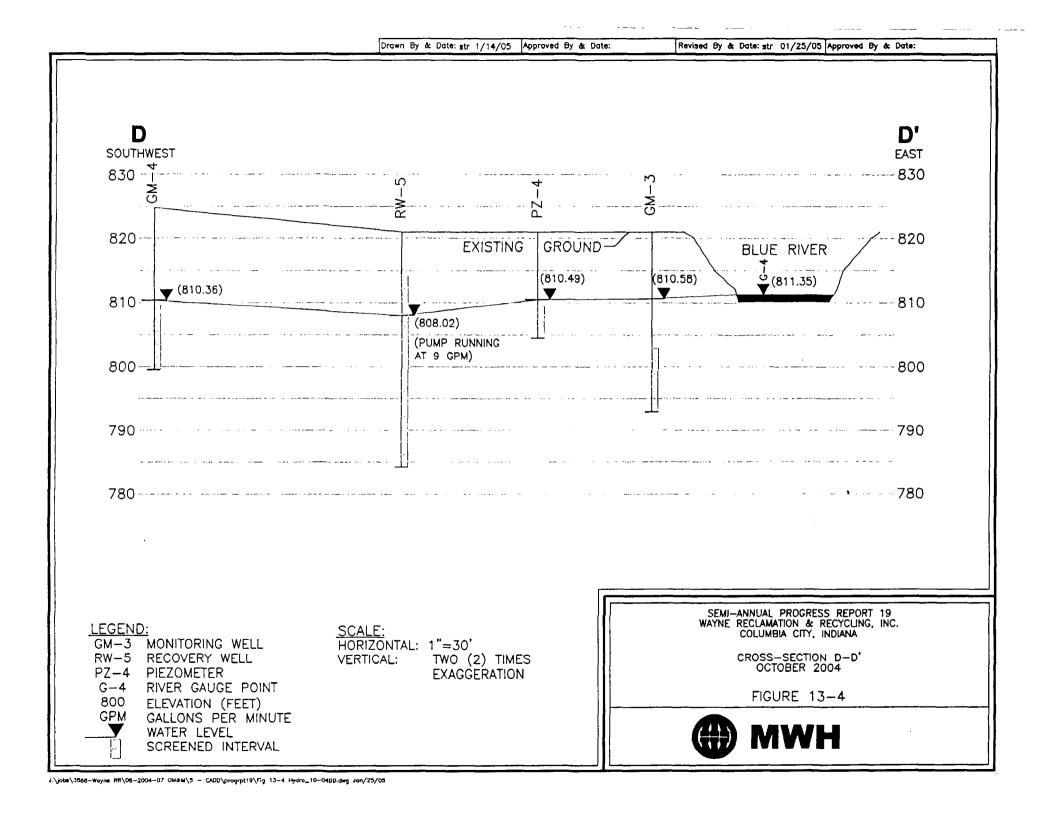


Figure 14
Summary of Site Volatile Organic Compound Removal Rates
Soil and Groundwater Remediation Systems
Wayne Reclamation & Recycling

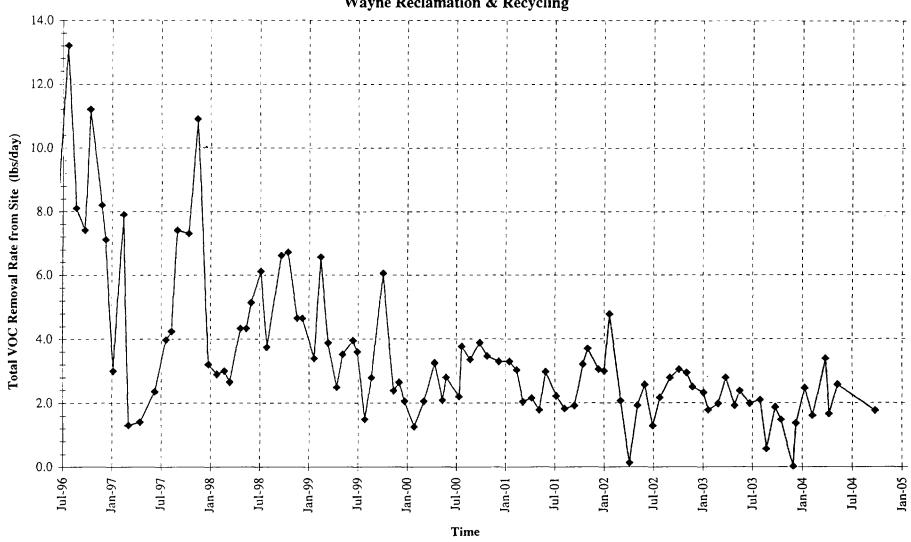
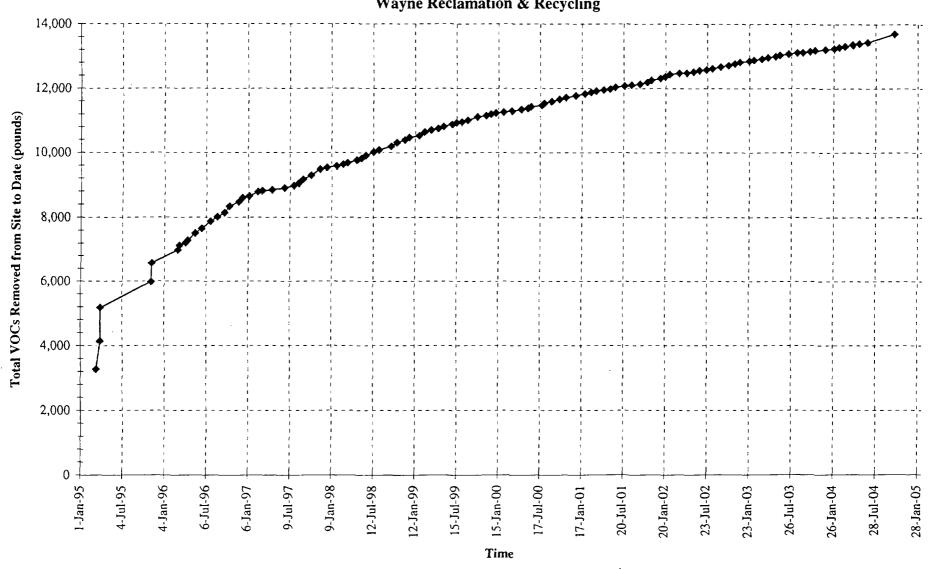


Figure 15
Cumulative Volatile Organic Compounds Removed From Site
Soil and Groundwater Remediation Systems
Wayne Reclamation & Recycling



APPENDIX A

NDFILL SAMPLING DATA, OCTOBER 22, 2004 SAMPLING EVENT



RECEIVED

JAN 0 3 2005

MWH DETROIT

Mr. Jeffrey P. Walker Outside Operations Manager City of Columbia City 112 S. Chauncey Street Columbia City, IN 46725

Re: City of Columbia City
Wayne Reclamation & Recycling Facility
October 2004 Groundwater Sampling Event

December 22, 2004

Burgess & Niple, Inc. 5085 Reed Road Columbus, OH 43220 614 459.2050 Fax 614 451.1385 Dear Mr. Walker:

Burgess & Niple, Inc. (B&N) has completed this report to provide you with additional information that is not included in the formal report submitted to the U.S. Environmental Protection Agency (EPA), as required by the facility's *Operation and Maintenance Sampling and Analysis Plan* (OMSAP) (Geraghty & Miller, Inc., October 1993). B&N completed groundwater sampling and analysis of four monitoring wells located at the Wayne Reclamation and Recycling Facility (WRRF) in the City of Columbia City, Indiana on October 22, 2004. The following sections summarize the results of the most recent sampling event. Figure 1 displays the groundwater monitoring network. Attachment 1 includes the field-sampling sheets and chain-of-custody form completed during the most recent sampling event. Attachment 2 contains the analytical laboratory report submitted by American Analytical Laboratories, Inc. (AAL). Time-versus-concentration plots generated from the groundwater quality data are presented in Attachment 3.

METHODS

Groundwater elevations were measured at each well, using an electronic water-level measuring tape. The depth to the bottom of each well was also measured. Measurements were made to the nearest 0.01 foot and recorded on field-sampling sheets. The well stick-up was measured to the nearest 0.1 foot and recorded.

Field-sampling personnel completed a wellhead inspection of each well documenting any evidence of activity near the well, the condition of the protective casing, any insect or rodent intrusions, or other notable conditions.

Disposable polyethylene bailers were used to purge each well of a minimum of five well volumes prior to sampling. Field parameters (pH, specific conductance, temperature, and turbidity) were measured and recorded during well purging. Sampling began once at least five well volumes were removed and the field parameters stabilized (within ± 10 percent). Purge water was disposed of on the ground away from each well, as specified by the facility's OMSAP.

Groundwater samples were collected from the four monitoring wells (GM-1, GM-2, GM-3, and GM-4). One duplicate was collected at GM-4 by splitting each bailer of water between two sets of sample containers. One field blank was collected to evaluate possible cross-contaminants from the field-sampling equipment. Deionized water was poured into a

disposable bailer and transferred into the sample containers. The laboratory prepared one trip blank (two 40-milliliter [ml] vials of deionized water) and sent it along with the sample containers. Field personnel filled the sample containers and placed them in a cooler that was chilled with ice to 4 degrees Celsius (°C) or cooler. Groundwater samples were brought back to AAL for analysis.

AAL analyzed the groundwater samples from the four monitoring wells, the duplicate sample, and the equipment blank for ammonia (Method 350.1), chloride (Method 4500-CL), chemical oxygen demand (COD) (Method 410.4), sodium (Method 6010/200), and volatile organic compounds (VOCs) (Method 8260). The trip blank was analyzed for VOCs only.

RESULTS

Table 1 includes all historical groundwater quality results reported for the WRRF, including the results of the October 22, 2004 groundwater sampling event. VOCs included in Table 1 are only those parameters historically detected at the facility. All other VOCs have been reported below the respective laboratory detection limits.

Most of the inorganic concentrations reported for GM-1, GM-2, GM-3, and GM-4 during the most recent groundwater sampling event were within the respective range of historical results. The lowest historical concentrations for ammonia in GM-2 were reported during the October 2004 sampling event.

There were no VOCs reported above the laboratory detection limits in either GM-1 or GM-2 during the October 2004 sampling event. This is consistent with historical results for these two wells. All detected VOCs in GM-3 and GM-4 were within the respective range of historical concentrations.

Time-versus-concentration plots were constructed for ammonia, chloride, COD, sodium, and each of the historically detected VOCs. Historical results from each of the monitoring wells are included on each plot for comparative purposes. No increasing trends in inorganic constituents are evident. It appears that each of the defected VOCs in GM-3 and GM-4 have stabilized, or depict a decreasing trend in concentration, since 2000.

The following conclusions for the consistently detected organic compound concentrations in well GM-4 are noted:

- Concentrations of 1,1-DCA steadily increased from June 1996 (4.0 micrograms per liter [µg/l]) to a high of 26 µg/l in April 2003, but appear to have stabilized since October 2001, with the latest concentration reported at 14 µg/l in October 2004. There is no U.S. EPA Primary Maximum Contamination Level (MCL) established for 1,1-DCA.
- Concentrations of 1,1-DCE consistently increased from December 1997 (less than 0.5 μg/l) to a maximum value of 7.1 μg/l in October 2001. Since then, the last six semiannual analytical results have all been lower (6.0 μg/l, 5.1 μg/l, 6.2 μg/l, 4.9 μg/l, 3.8 μg/l, and 6.1 μg/l respectively). The Primary MCL for 1,1-DCE is 7 μg/l.

- Concentrations of cis-1,2-DCE spiked to a high of 570 μg/l in June 2001. Since then, concentrations have shown a decreasing trend with latest result of 100 μg/l reported for October 2004. The Primary MCL for cis-1,2-DCE is 70 μg/l.
- Previously, concentrations of 1,1,1-TCA were concluded as having an overall increasing trend from December 1999 (143 μg/l) to October 2002 (380 μg/l). However, concentrations consistently decreased from October 2002 to April 2004. The latest reported concentration of 180 μg/l in October 2004 matches the previous concentration for April 2004, which is lower than the MCL of 200 μg/l for 1,1,1-TCA.
- Previously, concentrations of Trichloroethylene (TCE) were concluded as having a consistently increasing trend from June 2000 (440 μg/l) to October 2002 (1,300 μg/l). However, since October 2002, concentrations have overall decreased with the latest reported concentration of 740 μg/l in October 2004. The MCL is 5 μg/l for TCE.

Table 2 includes historical groundwater elevations and other well data recorded at the facility. Groundwater elevation data prior to December 1999 was not available. Groundwater elevations decreased between April 2004 and October 2004 from a minimum of 0.39 feet at GM-1 to a maximum of 0.55 feet at GM-4.

If you have any questions or comments, please do not hesitate to call.

Sincerely,

Michael R. Akins Project Geologist

mi R. Si

MEL:cmc
Attachments

copy: Mr. Howard Lowen, Columbia City (w/att)

Ms. Jessica Huxhold-Fliss, Indiana Dept. of Environmental Management (w/att)

Mr. Tom Tiefert, B&N (w/att)

Mr. Dan Forlastro, Engineering Management, Inc. (w/att)

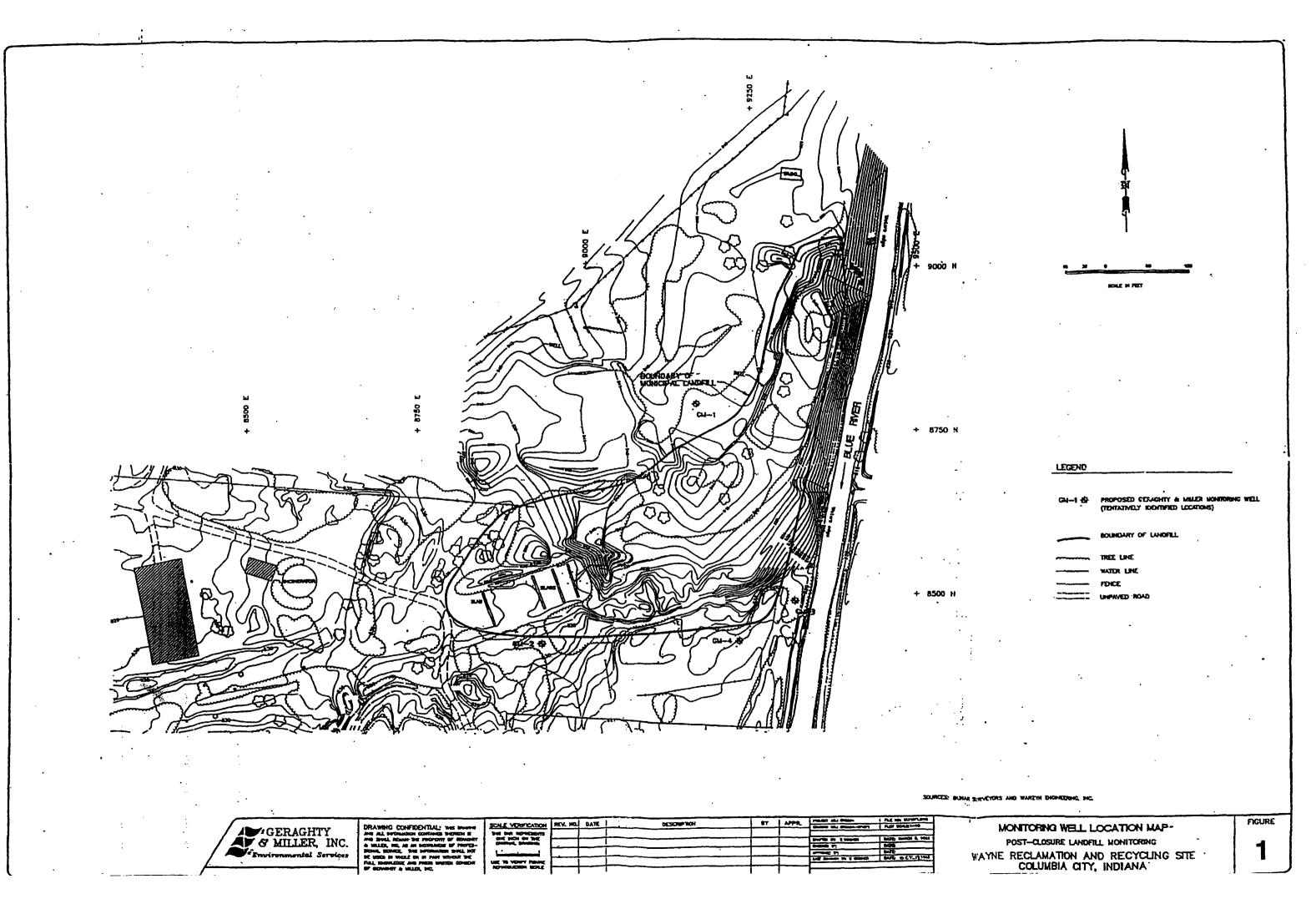


Table 1 Wayne Reclamation and Recycling Facility City of Columbia City Groundwater Monitoring Program

													GM	-1									
Parameter	Units	MCL,	MDL ²	Jun-95	Jan-96	Jun-96	Jan-97	Jun-97	Dec-97	Jun-98	Jan-99	Jun-99	Dec-99	Jun-00	Dec-00	Jun-01	Oct-01	Apr-02	Oct-02	Apr-03	Oct-03	Арт-04	Oct-04
Inorganics														-									
Ammonia	mg/l		0.05	0.43	0.6	0.58	0.25	0.41	0.28	1.7	0.587	0.45	0.48	1.08	1.20	1.41	1.09	1.14	1.24	0.96	0.94	1.04	0.83
Chloride	mg/l	250 (S)	1	130	120	80	48	39	35	80	64	31	37	26	23	46	39	44	31	31	37	51	51
Chemical Oxygen Demand (COD)	mg/l		. 1	130	55	87	100	39	25	38	74	22	36	27	45	13	29	52	37	<5	14	5	31
Sodium	mg/l	_	0.10	60	59	54	26	22	19	18	22.8	18	15	19.2	17.5	19.0	22.9	22.2	21.5	17.6	17.1	23.1	25.5
Volatile Organic Compounds																							
2-Butanone (Methyl ethyl ketone)	ug/l		10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	ug/l		1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	7	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	ug/l	70	0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<1.0	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	ug/l	100	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,2-Dichloropropane	սջ/I	5	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	_<5_	<5.0	<5.0	<1.0	<1.0	<1.0	<1	<1	<1	<i< th=""></i<>
1,1,1-Trichloroethane	ug/l	200	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.6	<1	</th <th><1</th> <th><1</th>	<1	<1
1,1,2-Trichloroethane	ug/1	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	ug/l	5	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1	_ <1	<1	<1
Vinyl Chloride	ug/l	2	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<2	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Field Parameters																					-		
рН	S.U.	6.5-8.5 (S)												6.90	7.58	6.94	7.49	7.55	7.11	7.17	7.40	6.72	6.91
Specific Conductance	umhos/cm									=_	_		700	832	784	541	730	605	487	667	431	762	686
Temperature	oC									=_	<u> </u>	<u>-</u>	11.1	12.9	10.2	11.9	11.3	11.3	11.7	11.7	_ 11.5	12.0	11.8
Turbidity	NTU	<u> </u>												111	455	133	182	140	664	55	258	44	134

All other VOCs have been historically below laboratory detection limits.

page 1 of 7

^{1 =} U.S. EPA Maximum Contaminant Level

² = Current Laboratory Method Detection Limit (S) = Secondary U.S. EPA MCL Duplicate samples collected at GM-4.

													GN	4-2									,
Parameter	Units	MCL1	MDL ²	Jun-95	Jan-96	Jun-96	Jan-97	Jun-97	Dec-97	Jun-98	Jan-99	Jun-99	Dec-99	Jun-00	Dec-00	Jun-01	Oct-01	Арт-02	Oct-0?	Apr-03	Oct-03	Apr-04	Oct-04
Inorganics								*															
Ammonia	mg/l		0.05	2.6	2.6	2.4	1.6	3	2.6	3	2.64	1.7	1.8	1.99	1.80	2.03	2.10	1.46	1.43	1.35	1.30	1.28	1.18
Chloride	mg/i	250 (S)	1	18	15	19	16	16	22	19	10	7	12	16	10	12	14	20	14	15	50	11	11
Chemical Oxygen Demand (COD)	mg/l		1	30	<20	<20	<20	<20	<20	20	38	15	<15	17	8	<1	18	26	12	_<5	ঠ	15	36
Sodium	mg/l		0.10	20	15	17	16	13	19	10	11.2	10.1	12.3	12.1	10.5	11.3	14.4	14.4	12.2	12.0	12.2	10.1	9.12
Volatile Organic Compounds				••																			
2-Butanone (Methyl ethyl ketone)	ug/l		10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	ug/l		1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,1-Dichloroethene	บg/l	7	0.5	<0.5	⊲0.5	<0.5	<0.5	<0.5	<0.5	-10.5	<0.5	<0.5	<1.0	<	<0.5	<0.5	<0.5	<0.5	<0.5	⊴0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	ug/1	70	0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	-:0.5	<0.5	<0.5	<1.0	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Ø.5	<0.5	<0.5
trans-1,2-Dichloroethene	ug/l	100	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	⊲0.5	<0.5	<0.5	<1.0	্ব	<1.0	<1.0	<1.0	<1.0	<1.0	_ <1	</th <th><1</th> <th><1</th>	<1	<1
1,2-Dichloropropane	ug/l	5	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	⊲0.5	<0.5	<0.5	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1	<Ⅰ	<1	<1
1,1,1-Trichloroethane	ug/i	200	1_1_	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	⊴0.5	<0.5	<0.5	<1.0	ব	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/t	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	⊲0.5	<0.5	<0.5	<1.0	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	40.5	<0.5	<0.5
Trichloroethene	ug/l	5	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	ব	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Vinyl Chloride	ug/l	2	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	⊴0.5_	<0.5	<0.5	<1.0	⊲	<1.0	<1.0	<1.0	<1.0	<1.0	<]	<1	<1	<1
Field Parameters																						-	
pН	S.U.	6.5-8.5 (S)	-		_	-			-				_	7.13	7.65	7.06	7.59	7.41	7.10	7.32	7.61	7.05	6.83
Specific Conductance	umhos/cm	<u> </u>						-					700	818	715	524	936	804	586	826	458	723	667
Temperature	oC		-			-							11.3	12.9	10.6	11.4	10.2	10.6	11.5	12.1	12.7	12.0	12.3
Turbidity	NTU			<u> </u>	_			-						9	13	22	10.5	7.44	16.0	13	10	12	11

All other VOCs have been historically below laboratory detection limits.

page 2 of 7

^{1 =} U.S. EPA Maximum Contaminant Level

² = Current Laboratory Method Detection Limit
(S) = Secondary U.S. EPA MCL
Duplicate samples collected at GM-4.

													GN	4-3									
Parameter	Units	MCT,	MDL ²	Jun-95	Jan-96	Jun-96	Jan-97	Jun-97	Dec-97	Jun-98	Jan-99	Jun-99	Dec-99	Jun-00	Dec-00	Jun-01	Oct-01	Арт-02	Oct-02	Apr-03	Oct-03	Apr-04	0ct-04
Inorganics																							
Аттопіа	mg/l		0.05	6	4.9	3.2	0.98	1.4	1	1.4	1.15	0.6	0.8	0.59	0.79	0.52	0.62	0.51	0.76	0.52	0.55	0.45	0.50
Chloride	mg/l	250 (S)	1	23	14	25	32	20	40	25	42	24	20	29	44	22	28	24	32	67	27	42	21
Chemical Oxygen Demand (COD)	mg/l		1	120	80	38	33	<20	<20	25	24	22	<15	28	10	14	18	22	15	5	20	33	43
Sodium	mg/l		0.10	26	14	14	17	11	16	10	19.2	16.4	16.5	17.7	21.5	15.8	15.0	12.2	20.4	36.2	19.7	15.7	17.2
Volatile Organic Compounds												 .											
2-Butanone (Methyl ethyl ketone)	ug/l		10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	ug/l		1_1_	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	. <1.0	<1.0	<1	<1	<1	<1
1,1-Dichloroethene	ug/l	7	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	⊴0.5	⊲0.5	⊲0.5	<1.0	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	ug/l	70	0.5	84	33	26	17	17	36	94	51	85.6	60.7	110	82	61	150	85	100	52	72	59	17
trans-1,2-Dichloroethene	ug/l	100	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.6	0.9	<0.5	<1.0	<5	<1.0	<1.0	1	<1.0	2	<i< th=""><th><1</th><th><1</th><th><1</th></i<>	<1	<1	<1
1,2-Dichloropropane	ug/l	5	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	40.5	<0.5	<1.0	_<5.0	<5.0	⋖.0	<1.0	<1.0	<1.0	_<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	200	i	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	⊲0.5	<0.5	<0.5	<1.0	ব	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<i< th=""></i<>
1,1,2-Trichloroethane	ug/l	5	0.5	<0.5	<0.5	⊲0.5	_ <0.5	<0.5	⊲0.5	⊲0.5	<0.5	<0.5	<1.0	ব	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	40.5	<0.5	<0.5
Trichloroethene	ug/l	5	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	ব	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Vinyl Chloride	ug/l	2	1	10	<1.0	18	42	33	45	32	22.6	22.3	16.6	26	28	24	54	33	41	19	40	27	31
Field Parameters																							
рН	S.U.	6.5-8.5 (S)	-									_		7.74	7.88	7.08	7.99	6.89	7.50	7.99	8.03	7.86	7.19
Specific Conductance	umhos/cm		-		-				-				650	615	767	382	635	410	445	739	356	560	579
Temperature	оC		-						<u> </u>				16.9	13.4	12	8.5	14.6	8.6	16.7	6.7	14.3	8.4	15.7
Turbidity	NTU			ــــــــــــــــــــــــــــــــــــــ		_						<u> </u>		45	34	13	30.8	29.2	28.0	16	140	45	299

All other VOCs have been historically below laboratory detection limits.

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^{1 =} U.S. EPA Maximum Contaminant Level

² - Current Laboratory Method Detection Limit
(S) - Secondary U.S. EPA MCL
Duplicate samples collected at GM-4.

													GN	1-4									
Parameter	Units	MCL,	MDL ¹	Jun-95	Jan-96	Jun-96	Jan-97	Jun-97	Dec-97	Jun-98	Jan-99	Jun-99	Dec-99	Jun-00	Dec-00	Jun-Oi	Oct-01	Apr-02	Oct-02	Apr-03	Oct-03	Арт-04	Oct-04
Inorganics																							
Ammonia	mg/l		0.05	0.37	0.33	0.34	0.28	0.13	0.37	3.1	0.697	0.29	0.24	0.32	0.46	0.36	0.33	0.29	0.25	0.31	0.23	0.22	0.19
Chloride	mg/l	250 (S)	1	23	41	12	8.3	11	11	12	16	4.5	19	7	8	5	6	9	4	7	6	5	5
Chemical Oxygen Demand (COD)	mg/l	:	- 1	220	65	47	55	20	<20	20	20	20	<15	13	2	6	28	13	8	<5	ব	10	22
Sodium	mg/l	<u> </u>	0.10	31	41	22	25	18	26	25	40	21	12	17.6	27.8	14.6	15.1	10.2	11.6	11.0	7.86	8.98	8.43
Volatile Organic Compounds																							
2-Butanone (Methyl ethyl ketone)	ug/l		10	<10	150	<10	<10	<10	<10	<10	<10	<10	<33.3	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	ug/l		11	<1.0	<1.0	<1.0	10	12	13	11	16	14	13	19	18	21	25	17	20	26	20	15	14
1,1-Dichloroethene	ug/l	7	0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	3.2	5.2	5	3.7	<5	4.2	7.0	7.1	6.0	5.1	6.2	4.9	3.8	6.1
cis-1,2-Dichloroethene	ug/l	70	0.5	130	140	190	260	250	320	250	323	243	250	190	270	570	250	230	180	190	98	110	100
trans-1,2-Dichloroethene	ug/l	100	1	<1.0	<1.0	<1.0	12	14	16	13	16.3	13	14	13	14	18	20	14	14	15	11	8	8
1,2-Dichloropropane	ug/l	5	5	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<33	<5.0	<5.0	6	<1.0	<1.0	<1.0	<1	4	<1	<1
1,1,1-Trichloroethane	nR\J	200	1	180	<1.0	200	140	140	210	180	144	193	143	170	210	610	260	330	380	260	94	180	180
1,1,2-Trichloroethane	ug/l	5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<3.3	্ব	<0.5	0.8	0.9	<0.5	0.8	0.8	0.7	0.6	<0.5
Trichloroethene	ug/l	5	1	410	380	530	280	430	490	500	462	556	435	440	640	1,900	860	870	1,300	840	400	630	740
Vinyl Chloride	ug/l	2	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.8	5.2	3.7	4.9	4	8	6	7	5	2	4	2	3	3
Field Parameters																							
pH	S.U.	6.5-8.5 (S)				-	-						-	734	7.02	6.99	7.51	7.23	7.23	7.35	7.70	7.29	6.92
Specific Conductance	umhos/cm												690	964	1,141	553	880	660	471	729	413	<i>7</i> 32	619
Temperature	oC				_=	-							15.2	12.9	11.9	10.8	12.1	9.9	13.1	11.1	12.4	10.8	13.3
Turbidity	NTU			<u>L </u>									1 -	13	21	29	22.9	17.4	37.0	25	51	30	56

All other VOCs have been historically below laboratory detection limits.

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^{1 =} U.S. EPA Maximum Contaminant Level

² = Current Laboratory Method Detection Limit
(S) = Secondary U.S. EPA MCL
Duplicate samples collected at GM-4.

								Du	plicate (GN	1-4)				
Parameter	Units	MCL'	MDL ²	Dec-99	Jun-00	Dec-00	Jun-01	Oct-01	Apr-02	Oct-02	Арт-03	Oct-03	Apr-04	Oct-04
Inorganics														
Ammonia	mg/l		0.05	0.25	0.31	0.40	0.34	0.34	0.29	0.26	0.36	0.26	0.22	0.20
Chloride	mg/l	250 (S)	1	19	7	7	5	8	8	4	7	5	5	5
Chemical Oxygen Demand (COD)	mg/l		1	<15	24	4	8	22	16	11	<5	<5	10	26
Sodium	mg/l		0.10	12.8	21.5	28.1	14.0	15.8	10.5	7.32	11.1	7.80	8.76	8.67
Volatile Organic Compounds														
2-Butanone (Methyl ethyl ketone)	ug/l		10	<33.3	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	ug/l		1	15	19	19	21	24	18	27	28	20	14	14
1,1-Dichloroethene	ug/l	7	0.5	4.5	<5_	4.4	6.2	6.9	6.6	5.1	6.2	5.0	3.7	6.1
cis-1,2-Dichloroethene	ug/l	70	0.5	246	190	290	540	180	280	260	210	110	110	110
trans-1,2-Dichloroethene	ug/l	100	. 1	13	13	14	17	20	15	15	15	11	8	8
1,2-Dichloropropane	ug/i	5	5	<3.3	<5.0	<5.0	6	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/l	200	1	143	170	230	580	180	410	410	270	99	170	190
1,1,2-Trichloroethane	ug/I	5	0.5	<3.3	<5_	<0.5	0.8	0.9	<0.5	0.9	0.8	0.6	0.5	<0.5
Trichloroethene	ug/l	5	1	434	440	650	1,800	610	840	1,400	820	440	620	780
Vinyl Chloride	ug/l	2	1	4.3	4	9	5	6	5	2	4	2	2	3
Field Parameters										_				
рН	S.U.	6.5-8.5 (S)			7.34	7.02	6.99	7.51	7.23	7.23	7.35	7.70	7.29	6.92
Specific Conductance	umhos/cm			690	964	1,141	553	880	660	471	729	413	732	619
Temperature	oC			15.2	12.9	11.9	10.8	12.1	9.9	13.1	11.1	12.4	10.8	13.3
Turbidity	NTU			_	13	21	29	22.9	17.4	37.0	25	51	30	56

All other VOCs have been historically below laboratory detection limits.

^{1 =} U.S. EPA Maximum Contaminant Level

² = Current Laboratory Method Detection Limit
(S) = Secondary U.S. EPA MCL
Duplicate samples collected at GM-4.

						`							Trip	Blank									
Parameter	Units	MCL'	MDL ²	Jun-95	Jan-96	Jun-96	Jan-97	Jun-97	Dec-97	Jun-98	Jan-99	Jun-99	Dec-99	Jun-00	Dec-00	Jun-01	Oct-01	Apr-02	Oct-02	Apr-03	Oct-03	Apr-04	Oct-04
Inorganics																							
Аттопіа	mg/l		0.05	<0.030	<0.030	<0.030	<0.030		1	<0.010	<0.010					_					_		-
Chloride	mg/l	250 (S)	l	<1.0	<1.0	<1.0	<1.0	_		<1.0	<1.0				_								
Chemical Oxygen Demand (COD)	mg/l		1	<20	<20	<20	<20	-	-	<5	<5		<u> </u>			-						_	
Sodium	mg/l	-	0.10	<0.50	<0.50	⊲0.50	<0.50	<u> </u>		<0.20	<0.20		<u> </u>		_	L	<u> </u>	<u> </u>			-		
Volatile Organic Compounds																							
2-Butanone (Methyl ethyl ketone)	ug/i		10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	ug/l		11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<05	<0.5	<0.5	<1.0	<	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,1-Dichloroethene	u g /l	7	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	ug/l	70	0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<1.0	ব	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	ug/l	100	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	ব	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,2-Dichloropropane	ug/l	5	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/i	200	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
1,1,2-Trichloroethane	_ug/l	5	0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	<	<0.5	<0.5	<0.5	<0.5	<0.5	_<0.5_	<0.5	<0.5	<0.5
Trichloroethene	u <u>e</u> /l	5	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<1.0	ব	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<1
Vinyl Chloride	ug/l	2	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	 ⊲ 0.5	<0.5	<1.0	<5	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1	<1	<l< th=""></l<>
Field Parameters												·											
рН	S.U.	6.5-8.5 (S)				-			_				ļ <u> </u>		_	_	_	_			-	-	-
Specific Conductance	umhos/cm		-							_ _ _			<u> </u>										
Temperature	οС							_					<u> </u>										
Turbidity	עדא				_	l							-				_			-			

All other VOCs have been historically below laboratory detection limits.

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^{1 =} U.S. EPA Maximum Contaminant Level

² = Current Laboratory Method Detection Limit
(S) = Secondary U.S. EPA MCL
Duplicate samples collected at GM-4.

Table 2 City of Columbia City, Indiana Wayne Reclamation & recycling Facility Groundwater Elevations & Well Data

	TOC Elevation					Depth	In Water (feet E	TOC)				
Well No.	(feet sessi)	12/13/99	6/29/00	12/5/00	6/4/01	10/25/01	4/22/02	10/15/02	4/18/03	10/17/03	4/23/04	10/22/04
GM-I	841.03	31.26	30.19	31.61	30.31	29.54	29.24	31.64	31.51	30.22	30.68	31.07
GM-2	833.24	23.65	22.08	23.60	22.18	21.45	21.12	23.75	23.32	22.20	22.69	23.21
GM-3	B22.86	13.74	10.69	12.45	11.73	8.46	10.51	12.40	12.08	11.16	11.95	12.37
GM-4	827.37	16.54	15.33	17.18	16.39	13.51	15.17	17.21	16,79	15.78	16.59	17.14
MW-4S	842,94	-		33.43	32.03	31.52	30.92	33.55	33,17	32.02	32.42	32.90

	TOC Elevation					Groundy	rater Elevation (feet sansi)				
Well No.	(feet ampl)	12/13/99	6/29/00	12/5/00	6/4/01	10/25/01	4/22/02	10/15/02	4/18/93	10/17/03	4/23/04	10/22/04
GM-1	841.03	809.77	810.84	8(19.42	810.72	\$11.49	811.79	809.39	809,52	810.81	\$10.35	809.96
GM-2	B33.24	809.59	811.16	809.64	811.06	811.79	812.12	809.49	809.92	811.04	\$10.55	810.03
GM-3	822.86	811.12	812.17	810.41	811.13	814.40	812.35	810.46	\$10,78	811.70	810.91	810.49
GM-4	827.37	810.83	812.04	810.19	810.98	813.86	812.20	810.16	810.58	811.59	\$10.78	810.23
MW-4S	842.94			809.51	810.91	811.42	812.02	809.39	809.77	810.92	\$10.52	B10.04

	TOC Elevation					V	Vell Stick-Up (fee	()				
Well Na.	(fect small)	12/13/1999	6/25/2000	12/5/2000	6/4/2001	19/25/2001	4/22/2002	10/15/2002	4/18/2003	10/17/2003	4/23/2004	10/22/2004
GM-I	841.03	2.1		1.9	1.9	2.1	1.8	2.1	1.8	1.8	1.8	2.0
GM-2	833.24	2.5		2.2	2.2	2.5	2.2	2.5	2.2	2.2	2.2	24
GM-3	\$22.86	2.2	-	2.0	2.0	2.3	1.9	2.3	1.9	2.0	2.0	2.2
GM-4	\$27.37	3.3	1	2.6	2.6	3.0	2.5	3.0	2.6	2.7	2.6	2.9
MW-4S	842.94		-	-	-	3.0	2.6			-	1.5	2.8

	TOC Elevation					Depth	-to-Bottom (feet	втос)				
Well No.	(feel smal)	12/13/1999	6/29/2000	12/5/2000	6/4/2001	10/25/2001	4/22/2002	10/15/2002	4/18/2003	10/17/2003	4/23/2004	19/22/2004
GM-I	841.03	35.10	34.84	34.84	34.84	34.86	34.81	34.81	34.91	35.05	34.96	34.97
GM-2	833.24	39.08	38.87	38.86	38.86	38.88	38.83	38.83	38.80	34.85	38.82	38.82
GM-3	822.86	27.95	27.72	27.75	27.75	27.74	27.71	27.71	27.68	27.72	27.68	27.68
GM-4	\$27.37	28.17	27.93	27.95	27.95	27.95	27.91	27.91	27.89	27.92	27.90	27.90
MW-4S	842.94		_	39.74	39.74	40.93	40.88		_		40.85	40.85

Data prior to 12/99 unavailable.
TOC = Top of casing elevation reported by Geraghty & Miller SAP,
ams1 = above mean ses level.
BTOC = below top of casing

Burgess & Niple, Inc. 12/3/2004

ATTACHMENT 1

FIELD-SAMPLING SHEETS AND CHAIN-OF-CUSTODY FORM

GROUNDWATER MONITORING WELL RECORD FORM SITE LOCATION: WAYNE RECLAMATION & RECYCLING FACILITY CITY OF COLUMBIA CITY, IN

WELL NO.: <u>GM - 1</u>	DATE:	10-22-	04	PROJECT	`NO.:3	34776		7.
FIELD BOOK NO.:HA								
SAMPLING CREW:							_	
WELLHEAD INSPECTION:								
Evidence of Activities at Well:	No ✓	Yes	Commer	ıt:				
Well Protector Condition:	Good ✓	Poor	Commen	t:				
Insect/Rodent Intrusion:	No 🔽	Yes	_ Commer	ıt:				
Other:		Al4	·				_	
FIELD EQUIPMENT USED:					Date Calib	rated:		
Water Level Indicator: Solinst	Soiltest	Ploppe	er			22-04		
pH Meter: Hanna Orion						/		_
Conductivity Meter: YSI								-
Thermometer: YSI F	lanna	Oakton 🗸	,			7		_
Turbidity: Hach _ HF Scientif	fic							_
Dissolved Oxygen: Corning No	. 1 C	oming No. 2	2					_
Other:	^	VIA				4	_	
STATIC WATER LEVEL:								
Reference Point (RP) Elevation:	Ton Casing	. /	Top Protec	etor		Well Stick	-11 1 1	
								- , - ·
Measured Level: 1st Time/Depth: 126AM/ 31.07	j.	128M/ 31	07	1128AM/ 31	1.07	31.0	7	
Well Bottom: Measured Distance	e from RP:	34.47	- •	1WV= .6	357 r	DUNE 6.3	57	-
							•	
PURGING: Devices Devices Dedicated P	h 1 ma m	Dadiastad	D	Dianas	abla Dailan	/		
Purging Device: Dedicated P Grundfos Pu	ump	Diadda- D	Pump	Disposa	adie Bailer_			
Time Elapsed During Purging (mins						 r:	lons	
Time States Samily a Bing (min								
A GE A GUMPEN GEN IMAG	<u> </u>	r :			MINUTES			т
MEASUREMENTS	1208PW	IZIIPM	1213PM	1516 PM			<u> </u>	+
Amount of Water Removed (mls.)					5-0	6.5		
pH (S.U.)	6.61	6.85	6.88			6.91		
Conductivity (umhos/cm)	769	. 123	703	690	691	686	ļ	
Temperature (°C)	12.6	12.0	12.0	11.9	11.8	11.8		
Turbidity (NTU)	241	114	146	144	MB	134	 	
TDS (ppm)	385	363	348	346	352	345		
Dissolved Oxygen (mg/l)				<u> </u>			<u></u>	
SAMPLING:								
Sampling Device: Dedicated P	ump	Dedicated	Pump	Disposa	able Bailer	✓		
Grundfos Pi								
Time Sampling Began: 1225PM		T: O-		~ ~ C~AA				
	Odor _		JA_	Color _B	rownsh/ ore	ngo		
	Turbidity _	Clou	94	Other	DIA		,	
QA/QC Sample Collected: Duplicate	te Repli	icate M	atrix Spike	/Matrix Sp	ike Duplicat	e None	<u> </u>	
REMARKS:								
ACTIANAS,								

GROUNDWATER MONITORING WELL RECORD FORM SITE LOCATION: WAYNE RECLAMATION & RECYCLING FACILITY CITY OF COLUMBIA CITY, IN

WELL NO.: <u>GM-2</u>	DATE: _	10-22-01	04	PROJECT	'NO.:	34776	1 ·	·
FIELD BOOK NO.: NA								
SAMPLING CREW:		B	+ley		·		_	
WELLHEAD INSPECTION: Evidence of Activities at Well: Well Protector Condition: Insect/Rodent Intrusion: Other:	Good ✓_ No _✓	_ Poor	Commen Commen	t:				
FIELD EQUIPMENT USED: Water Level Indicator: Solinst _/ pH Meter: Hanna Orion Conductivity Meter: YSI Orion Thermometer: YSI F Turbidity: Hach _/ HF Scienti: Dissolved Oxygen: Corning No	_ Soiltest _ _ Oakton Oakton _/ Hanna	Ploppe Myron L Oakton	er		Date Calib	22 - 04		
Other:								
STATIC WATER LEVEL: Reference Point (RP) Elevation: Measured Level: 1st Time/Depth: 1143AAV 23.2 Well Bottom: Measured Distance PURGING: Purging Device: Dedicated F Grundfos Point Time Elapsed During Purging (min.)	e from RP Pump	2nd 143 AM / 23 2: 38.82 Dedicated Bladder P	Pump	3rd 1143AM/ 23.1 1120 V = 2.54 Disposa Other	21 1443 5 able Bailer	Ave. 2 ω√: 12.74	rage 3·21 2215	
					MINUTES)			
MEASUREMENTS	1238PM					1256 Pm		
Amount of Water Removed (mls.)		,				13.0		
рН (S.U.)	6.97	6.87			6.84		6.83	
Conductivity (umhos/cm)	609	657	660	663	653	669	667	
Temperature (°C)	13.6	12.4	12.2	12.3	12.3	122	12.3	
Turbidity (NTU)	49	44	32	15	13	10		
TDS (ppm)	307	330	331	333	329	335	334	}
Dissolved Oxygen (mg/l)	<u></u>		<u> </u>					l
SAMPLING: Sampling Device: Dedicated For Grundfos Por Grundfos Por Characteristics of Water: QA/QC Sample Collected: Duplication	Odor Turbidity	Bladder P Time Com	ump pleted:	Other Color Other	clear NA		,	
REMARKS:	кер	поасе IV	iau ix opike	εινιαυτά ορι	ve Dahiicai	C IAOHE	<u>_¥_</u>	
								

GROUNDWATER MONITORING WELL RECORD FORM SITE LOCATION: WAYNE RECLAMATION & RECYCLING FACILITY -

CITY	Λr	ഹവ	JUMBIA	CITY	TN
	OI.	CUL	OMIDICAL		ш.

WELL NO.:6M-3	DATE:	10-22	- 04	PROJECT	NO.:3	4776		
FIELD BOOK NO.: DA	_WEATHE	R: <u>Տ</u> սո	ny to Po	itly Cloud	y Dice!	65'		
SAMPLING CREW:		Botley					_	
WELLHEAD INSPECTION: Evidence of Activities at Well: Well Protector Condition: Insect/Rodent Intrusion: Other:	Good ✓ No ✓	Poor Yes	Commen Commen	t: Cam	int Ped	Creckid		
FIELD EQUIPMENT USED: Water Level Indicator: Solinst pH Meter: Hanna Orion Conductivity Meter: YSI Conductivity Meter: YSI Harmometer: YSI Hach Hach Corning No Other:	Oakton Dakton Janna Tic L Co	Myron L Oakton Oarning No. 2	,		Date Calib	orated:		
STATIC WATER LEVEL: Reference Point (RP) Elevation: Measured Level: 1st Time/Depth: 15744 12.37 Well Bottom: Measured Distance	_ \	2nd 5784 / 12-3	37 . I	3rd 157AM/ 12.	37	Well Stick Ave	егаде 37	
PURGING: Purging Device: Dedicated F Grundfos P Time Elapsed During Purging (min	ump	Bladder Pr	ump	Other moved Dur	ing Purging	: 13.0 (G=llons	
) EL LOI EL EN ENC	9-2.54		20.20	TIME (IN		, 		
MEASUREMENTS	203 PM	206PM	SIDOM	213PM		221 PM	<u> </u>	
Amount of Water Removed (mls.)	7.33	7.16	4.0		12.0	13.0	 	
pH (S.U.)	A60			567		7,19		
Conductivity (umhos/cm)	17.0	553 15.8	552 15.5		514	5 79 : 9	├	
Temperature (°C)	23			15.6	15.6	15.7	 	
Turbidity (NTU)		32	108	173	250	299	 	
TDS (ppm) Dissolved Oxygen (mg/l)	231	277	278	284	288	295	 	
SAMPLING: Sampling Device: Dedicated P Grundfos Po Time Sampling Began: 725PM Characteristics of Water: QA/QC Sample Collected: Duplica REMARKS: * Gupment Blank to	Odor Turbidity te Repl	Dedicated Bladder Pro Time Comp NA Slightly S icate M	Pump	Disposa Other 2-35 PM Color Other /Matrix Spi	ble Bailer	 Te None		vell 1
	ur at	٠٠٠١٠٠ ــــــ	<u> </u>			- In M		≆*''°
* Voss Disposable Bailer	foll to	bottom		ell due			Bailer	<u> </u>
no possible way to	retreive	i 1 ;41	h fish	ing line	+ hoo	ks !!!		

Phoofe this

GROUNDWATER MONITORING WELL RECORD FORM SITE LOCATION: WAYNE RECLAMATION & RECYCLING FACILITY CITY OF COLUMBIA CITY, IN

WELL NO.: <u>GM-4</u>	DATE: _	10 - 22	<u>-04</u>	PROJECT	NO.:	3477	6	
FIELD BOOK NO.: NA	_WEATHE	R: Sunn	y to Per	tly Cloudy	Dice!	65'	<u> </u>	
SAMPLING CREW:				-			_	
WELLHEAD INSPECTION: Evidence of Activities at Well: Well Protector Condition: Insect/Rodent Intrusion: Other:	Good 🖊	Poor Yes	Commen Commen	it: <u>Comente</u>	Pad c			
FIELD EQUIPMENT USED: Water Level Indicator: Solinst PH Meter: Hanna Orion Conductivity Meter: YSI FT Turbidity: Hach HF Scientific Dissolved Oxygen: Corning No Other: /	Soiltest _ Oakton Oakton Vanna fic 1 C	Plopped Myron L Oakton	er / 2		Date Calib	orated: 22-04		
STATIC WATER LEVEL: Reference Point (RP) Elevation: Measured Level: 1st Time/Depth: 114744/17.14 Well Bottom: Measured Distance PURGING: Purging Device: Dedicated P Grundfos Po Time Elapsed During Purging (minst	e from RF	2nd 147AM/ 17. 27.90 Dedicated Bladder P	I Pump	3rd 147 M / 17. WV= 1.7531 Disposa Other	14 88 50 ble Bailer	Ave 17 20/ = 8.7	erage 1. 14 6.94	
Time Liapsed During Lurging (min	3-)	10121	- Callois N				<u> </u>	
MEASUREMENTS		T 040		TIME (IN			T	
	124 PM	126 PM		T	136PM		<u> </u> 	
Amount of Water Removed (mls.)	6.97	1.0	3.0	6.92	7.0	100	 	
pH (S.U.) Conductivity (umhos/cm)		6.92	6.93		6.90		 	
	570	593	599	602	614	619	 	
Temperature (°C)	14.7	13.9	13.6	13.3	13.2	13.3	 -	
Turbidity (NTU)	17	76		66	52	56 311	 	
TDS (ppm) Dissolved Oxygen (mg/l)	287	295	<u>3</u> 01	303	308	311	-	
QA/QC Sample Collected Duplica	ump Odor Turbidity	Bladder P Time Com AA Clear	ump pleted: 1	OtherCopMColorCother	ican very	Slight Bro		
REMARKS:					sr_s			

BURGESS & NIPLE ENVIRONMENTAL LABORATORY CHAIN-OF-CUSTODY RECORD

PROJECT N	10:	CLIENT N	1AM	 E:		-					7.		HCL						,
34776	,	Wayn	e R	eclar	nation -	Columb	ia City	Indiana		70	FOSZH	HMOS	- 1						2.50
SAMPLER:	~ с. В	ey r.					Bu	rgess Hight Inc.	T O	Plashè	plastic	Plastic	ass viais					-	UISIBI 1CE 10-2
SAMPLE NO.	DATE	TIME	С О М Р	G R A B		SAMPLE I	DESCRIPTI	ON	T A L #	7w005	250 me	250:nc p	40 mL GI			Temp.	RE <i>l</i> PH	MARKS Cond.	O8
GM- 1	10/22/04	1225 PM		1	Ge	ound wa	ter_		6		ı	i	3	100	<i>040</i>	11.8	6.91	686	134
GM-Z		105PM		~					6	,	1	,	3	100	14/	12.3	6.83	667	f h
GM-4		140 PM		V					۵	,	1	1	3	1ac	742	13.3	6.92	619	56
GM-3		225 PM		1		\		·	6	1	1	1	3	100	145	15.7	7.19	579	299
Gm- Duplicate				1		1			6	,	1	1	3	10	244				
Equipment Blank	19/22/04	ZEOPM		1		DI	Water	413	6	1	,	1	3	10	1745				
						Tric	Bla	enk						10	96	7			
						ب	M.ke	Akins	Ca	Uc	do	+ V	cec	S					
						to	have	the 7	B	re	po A	col							
						<u> </u>	11	10/04	B										
Relinquishe	d by:				Date	Time	Received b	py:				C	Date	1	ime	Remark			
Relinquishe	ed by:	7. A.			10 Date /25/04	Time 725AM	Received	or this oy: R				10	123/0	× 0	125	,			
BURGESS	& NIPLE, LIN MENTAL LA	AITE				5085 REE TELEPHO	D ROAD, CO NE: (614)459	OLUMBUS, OH 0-2050	43220			ME	THO	OF S	HIPMI	ENT:			

ATTACHMENT 2 LABORATORY REPORT

- CERTIFICATE OF ANALYSIS -

Report Date: 02-Nov-04

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

City of Columbia City, IN Wayne Reclamation and Recycling Facility Groundwater Monitoring c/o 5085 Reed Road

Columbus, OH 43220

Attn: BN-Mike Akins

American Analytical Lab #: 04-10040

Sample ID: GM-1

Date Submitted to Lab: 10/25/04

Date Logged-In: 10/25/04

Client Project #: 34776

Matrix: G/Water

- SAMPLE COLLECTION INFORMATION -

Date: 10/22/04

Time 12:25 PM

By: Botley

Test Group	EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
NH3A	350.1	Ammonia	0.05	0.83	mg/l	10/27/04	ЛRW	40138
CL	4500-C1	Chloride	1	51	mg/l	10/26/04	, JRW	40104
COD	410.4	Chemical Oxygen Demand	5	31	.mg/l	10/25/04	MRW	40089
NAICP	6010/20	0 Sodium	10.00	25.5	mg/l	10/28/04	AAK	40145
8260-COLUM	IBI 8260	Acetone	100	< 100	ug/l	10/25/04	KBJ	40098
	8260	Acrylonitrile	50	< 50	ug/l	10/25/04	KBJ	40098
	8260	Benzene	5	< 5	ug/i	10/25/04	KBJ	40098
	8260	Bromochloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromodichloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromoform	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromomethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon disulfide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon tetrachloride	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chlorobenzene	5	< 5	ug/l	10/25/04	КВЈ	40098
	8260	Chloroethane	10.0	< 10.0	ug/l	10/25/04	КВЈ	40098
	8260	Chloroform	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chloromethane	10.0	< 10.0	ug/l	10/25/04	КВЈ	40098
	8260	1,2-Dibromo-3-chloropropane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10040: Page I

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10040 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Dibromochloromethane		< 5	ug/l	10/25/04	KBJ	40098
8260	1,2-Dibromoethane (EDB)	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Dibromomethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,4-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Trans-1,4-Dichloro-2-Butene	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethene	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	cis-1,2-Dichloroethene	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	trans-1,2-Dichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloropropane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	cis-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	trans-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Ethylbenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	2-Hexanone	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methyl ethyl ketone	10	< 10	ug/l	10/25/04	КВЈ	40098
8260	Methyl Iodide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	4-Methyl-2-pentanone (MIBK)	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methylene chloride	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	Styrene	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	1,1,1,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,2,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Tetrachloroethene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Toluene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1-Trichloroethane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,1,2-Trichloroethane	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	Trichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	Trichlorofluoromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10040: Page 2

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10040 -Continued from Previous Page

Test Group

EPA Metho		Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	1,2,3-Trichloropropane	. 5	< 5	ug/l	10/25/04	KBJ	40098
8260	Vinyl acetate	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Vinyl chloride	1	< 1	ug/l	10/25/04	KBJ	40098
8260	Xylene, Total	5	< 5	ug/l	10/25/04	KBJ	40098
TEMP	Temperature		11.8	legrees	C 10/22/04	SCB	40108
PHFIELD	рН	1.00	6.91	S.U.	10/22/04	SCB	40108
CONDFIELD	Conductivity	1	686	ımhos/c	n 10/22/04	SCB	40108
TURBFIELD	Turbidity	0.00	134	NTU	10/22/04	SCB	40108

End of Report

Report Approved By:

Peter J. Youll
Laboratory Director

- CERTIFICATE OF ANALYSIS -

Report Date: 02-Nov-04

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

City of Columbia City, IN
Wayne Reclamation and Recycling Facility
Groundwater Monitoring
c/o 5085 Reed Road
Columbus, OH 43220

Attn: BN-Mike Akins

American Analytical Lab #: 04-10041

Sample ID: GM-2

Date Submitted to Lab: 10/25/04

Date Logged-In: 10/25/04

Client Project #: 34776

Matrix: G/Water

- SAMPLE COLLECTION INFORMATION -

Date: 10/22/04

Time 1:05 PM

By: Botley

Test Group	EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#		
NH3A	350.1	Ammonia	0.05	1.18	mg/l	10/27/04	ЛRW	40138		
CL	4500-Cl	Chloride	1	11	mg/l	10/26/04	ЛRW	40104		
COD	410.4	Chemical Oxygen Demand	5	36	mg/l	10/25/04	MRW	40089		
NAICP	6010/20	0 Sodium	1.00	9.12	mg/l	10/28/04	AAK	40145		
8260-COLUM	BI 8260	Acetone	100	< 100	ug/l	10/25/04	KBJ	40098		
	8260	Acrylonitrile	. 50	< 50	ug/l	10/25/04	KBJ	40098		
	8260	Benzene	5	< 5	ug/l	10/25/04	KBJ	40098		
	8260	Bromochloromethane	5	< 5	ug/l	10/25/04	KBJ	40098		
	8260	Bromodichloromethane	5	< 5	ug/l	10/25/04	KBJ	40098		
	8260	Bromoform	5	< 5	ug/l	10/25/04	КВЈ	40098		
	8260	Bromomethane	10.0	< 10.0	ug/l	10/25/04	КВЈ	40098		
	8260	Carbon disulfide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098		
	8260	Carbon tetrachloride	5	< 5	ug/l	10/25/04	KBJ	40098		
	8260	Chlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098		
	8260	Chloroethane	10.0	< 10.0	ug/l	10/25/04	КВЈ	40098		
	8260	Chloroform	5	< 5	ug/l	10/25/04	KBJ	40098		
	8260	Chloromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098		
	8260	1,2-Dibromo-3-chloropropane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098		

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10041: Page 1

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10041 - Continued from Previous Page

Test Group

EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Dibromochloromethane	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	1,2-Dibromoethane (EDB)	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	Dibromomethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,4-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Trans-1,4-Dichloro-2-Butene	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethane	1	<]	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethene	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	cis-1,2-Dichloroethene	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	trans-1,2-Dichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloropropane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	cis-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	, KBJ	40098
8260	trans-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Ethylbenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	2-Hexanone	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methyl ethyl ketone	10	< 10	ug/l	10/25/04	KBJ	40098
8260	Methyl Iodide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	4-Methyl-2-pentanone (MIBK)	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methylene chloride	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Styrene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,2,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Tetrachloroethene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Toluene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1-Trichloroethane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,1,2-Trichloroethane	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	Trichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	Trichlorofluoromethane	10.0	< 10.0	ug/I	10/25/04	КВЈ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10041: Page 2

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10041 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	1,2,3-Trichloropropane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Vinyl acetate	50	< 50	ug/l	10/25/04	КВЈ	40098
8260	Vinyl chloride	1	< 1	ug/l	10/25/04	KBJ	40098
8260	Xylene, Total	5	< 5	ug/l	10/25/04	KBJ	40098
TEMP	Temperature		12.3	legrees (10/22/04	SCB	40108
PHFIELD	pH	1.00	6.83	S.U.	10/22/04	SCB	40108
CONDFIELD	Conductivity	1	667	ımhos/cı	n 10/22/04	SCB	40108
TURBFIELD	Turbidity	0.0	11	NTU	10/22/04	SCB	40108

End of Report

Report Approved By:

Peter J. Youll Laboratory Director

- CERTIFICATE OF ANALYSIS -

Report Date: 02-Nov-04

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

City of Columbia City, IN
Wayne Reclamation and Recycling Facility
Groundwater Monitoring
c/o 5085 Reed Road

Columbus, OH 43220

Attn: BN-Mike Akins

American Analytical Lab #: 04-10042

Sample ID: GM-4

Date Submitted to Lab: 10/25/04

Date Logged-In: 10/25/04

Client Project #: 34776

Matrix: G/Water

- SAMPLE COLLECTION INFORMATION -

Date: 10/22/04

Time 1:40 PM

By: Botley

Test Group	EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
NH3A	350.1	Ammonia	0.05	0.19	mg/l	10/27/04	лw	40138
CL	4500-Cl	Chloride	1	5	mg/l	10/26/04	JŖW	40104
COD	410.4	Chemical Oxygen Demand	5	22	mg/l	10/25/04	MRW	40089
NAICP	6010/200	Sodium	1.00	8.43	mg/l	10/28/04	AAK	40145
8260-COLUM	BI 8260	Acetone	100	< 100	ug/l	10/25/04	KBJ	40098
	8260	Acrylonitrile	50	< 50	ug/l	10/25/04	KBJ	40098
	8260	Benzene	5	< 5	ug/l	10/25/04	КВЈ	40098
	8260	Bromochloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromodichloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromoform	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromomethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon disulfide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon tetrachloride	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chloroethane	10.0	< 10.0	ug/l	10/25/04	КВЈ	40098
	8260	Chloroform	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chloromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	1,2-Dibromo-3-chloropropane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10042: Page I

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10042 - Continued from Previous Page

Test Group

Test Group							
EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Dibromochloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,2-Dibromoethane (EDB)	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	Dibromomethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,4-Dichlorobenzene	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	Trans-1,4-Dichloro-2-Butene	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethane	1	14	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethene	0.5	6.1	ug/l	10/25/04	KBJ	40098
8260	cis-1,2-Dichloroethene Compound analyzed at a 10X dilution	5.0 on.	100	ug/l	10/25/04	KBJ	40098
8260	trans-1,2-Dichloroethene	1 .	8	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloropropane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	cis-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	trans-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Ethylbenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	2-Hexanone	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methyl ethyl ketone	10	< 10	ug/l	10/25/04	KBJ	40098
8260	Methyl Iodide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	4-Methyl-2-pentanone (MIBK)	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methylene chloride	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Styrene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,2,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Tetrachloroethene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Toluene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1-Trichloroethane Compound analyzed at a 10X dilution	10.0 on.	180	ug/l	10/25/04	КВЈ	40098
8260	1,1,2-Trichloroethane	0.5	< 0.5	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10042: Page 2

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10042 -Continued from Previous Page

Test Group

EPA Method	l Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Trichloroethene Compound analyzed at a 10X dilut	10.0 ion.	740	ug/l	10/25/04	KBJ	40098
8260	Trichlorofluoromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	1,2,3-Trichloropropane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Vinyl acetate	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Vinyl chloride	1	3	ug/l	10/25/04	KBJ	40098
8260	Xylene, Total	5	< 5	ug/l	10/25/04	KBJ	40098
TEMP	Temperature		13.3	iegrees	C 10/22/04	SCB	40108
PHFIELD	pН	1.00	6.92	S.U.	10/22/04	SCB	40108
CONDFIELD	Conductivity	1	619	ımhos/c	n 10/22/04	ŞCB	40108
TURBFIELD	Turbidity	0.0	56	NTU	10/22/04	SCB	40108

End of Report

Report Approved By:

Peter J. Youll

Laboratory Director

- CERTIFICATE OF ANALYSIS -

Report Date: 02-Nov-04

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

City of Columbia City, IN

Wayne Reclamation and Recycling Facility

Groundwater Monitoring

c/o 5085 Reed Road

Columbus, OH 43220

Attn: BN-Mike Akins

American Analytical Lab #: 04-10043

Sample ID: GM-3

Date Submitted to Lab: 10/25/04

Date Logged-In: 10/25/04

Client Project #: 34776

Matrix: G/Water

- SAMPLE COLLECTION INFORMATION -

Date: 10/22/04

Time 2:25 PM

By: Botley

Test Group	EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
NH3A	350.1	Ammonia	0.05	0.50	mg/l	10/27/04	ЛRW	40138
CL	4500-C1	Chloride	1	21	mg/l	10/26/04	JRW	40104
COD	410.4	Chemical Oxygen Demand	5	43	mg/l	10/25/04	MRW	40089
NAICP	6010/20	0 Sodium	1.00	17.2	mg/l	10/28/04	AAK	40145
8260-COLUM	BI 8260	Acetone	100	< 100	ug/l	10/25/04	KBJ	40098
	8260	Acrylonitrile	50	< 50	ug/l	10/25/04	KBJ	40098
	8260	Benzene	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromochloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromodichloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromoform	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromomethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon disulfide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon tetrachloride	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chloroethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Chloroform	5	< 5	ug/l	10/25/04	КВЈ	40098
	8260	Chloromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	1,2-Dibromo-3-chloropropane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10043: Page 1

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

 $Lab\ Number\ 04\text{--}10043\ - Continued\ from\ Previous\ Page$

Test Group

EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Dibromochloromethane	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	1,2-Dibromoethane (EDB)	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Dibromomethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,4-Dichlorobenzene	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	Trans-1,4-Dichloro-2-Butene	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethene	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	cis-1,2-Dichloroethene	0.1	17	ug/l	10/25/04	КВЈ	40098
8260	trans-1,2-Dichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloropropane	1	< 1	ug/I	10/25/04	KBJ	40098
8260	cis-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	, KBJ	40098
8260	trans-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Ethylbenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	2-Hexanone	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methyl ethyl ketone	10	< 10	ug/l	10/25/04	KBJ	40098
8260	Methyl Iodide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	4-Methyl-2-pentanone (MIBK)	50	< 50	ug/i	10/25/04	KBJ	40098
8260	Methylene chloride	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Styrene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,2,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Tetrachloroethene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Toluene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1-Trichloroethane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,1,2-Trichloroethane	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	Trichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	Trichlorofluoromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10043: Page 2

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10043 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	1,2,3-Trichloropropane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Vinyl acetate	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Vinyl chloride	1	31	ug/l	10/25/04	KBJ	40098
8260	Xylene, Total	5	< 5	ug/l	10/25/04	KBJ	40098
ТЕМР	Temperature		15.7	legrees (10/22/04	SCB	40108
PHFIELD	рН	1.00	7.19	S.U.	10/22/04	SCB	40108
CONDFIELD	Conductivity	1	579	ımhos/cı	n 10/22/04	SCB	40108
TURBFIELD	Turbidity	0.00	299	NTU	10/22/04	SCB	40108

End of Report

Report Approved By:

Laboratory Director

- CERTIFICATE OF ANALYSIS -

Report Date: 21-Dec-04

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

City of Columbia City, IN
Wayne Reclamation and Recycling Facility
Groundwater Monitoring
c/o 5085 Reed Road
Columbus, OH 43220

Attn: BN-Mike Akins

American Analytical Lab #: 04-10044

Sample ID: GM-Duplicate

Date Submitted to Lab: 10/25/04

Date Logged-In: 10/25/04

Client Project #: 34776

Matrix: G/Water

- SAMPLE COLLECTION INFORMATION -

Date 10/22/04

Time

By: Botley

Test Group	EPA Method	Test	Calc. PQL	Final Result	Units	Analysis Date	Analyst	WS#
NH3A	350.1	Ammonia	0.05	0.20	mg/l	10/27/04	лw	40138
CL	4500-Cl	Chloride	1	5	mg/l	10/26/04	'nжw	40104
COD	410.4	Chemical Oxygen Demand	5	26	mg/l	10/25/04	MRW	40089
NAICP	6010/20	0 Sodium	1.00	8.67	mg/l	10/28/04	AAK	40145
8260-COLUM	BI 8260	Acetone	100	< 100	ug/l	10/26/04	KBJ	40126
	8260	Acrylonitrile	50	< 50	ug/l	10/26/04	KBJ	40126
	8260	Benzene	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromochloromethane	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromodichloromethane	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromoform	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromomethane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	Carbon disulfide	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	Carbon tetrachloride	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Chlorobenzene	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Chloroethane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	Chloroform	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Chloromethane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	1,2-Dibromo-3-chloropropane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10044: Page 1

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10044 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. PQL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Dibromochloromethane	5	< 5	ug/l	10/26/04	КВЈ	40126
8260	1,2-Dibromoethane (EDB)	5	< 5	ug/l	10/26/04	КВЈ	40126
8260	Dibromomethane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,2-Dichlorobenzene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,4-Dichlorobenzene	5	< 5	ug/l	10/26/04	КВЈ	40126
8260	Trans-1,4-Dichloro-2-Butene	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
8260	1,1-Dichloroethane	1	14	ug/l	10/26/04	КВЈ	40126
8260	1,2-Dichloroethane	5	< 5	ug/l	10/26/04	КВЈ	40126
8260	1,1-Dichloroethene	0.5	6.1	ug/l	10/26/04	KBJ	40126
8260	cis-1,2-Dichloroethene Compound analyzed at a 10X dilution	5.0	110	ug/l	10/26/04	KBJ	40126
8260	trans-1,2-Dichloroethene	1	8	ug/l	10/26/04	квј	40126
8260	1,2-Dichloropropane	1	< 1	ug/l	10/26/04	KBJ	40126
8260	cis-1,3-Dichloropropene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	trans-1,3-Dichloropropene	5	< 5	ug/l	10/26/04	КВЈ	40126
8260	Ethylbenzene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	2-Hexanone	50	< 50	ug/l	10/26/04	KBJ	40126
8260	Methyl ethyl ketone	10	< 10	ug/l	10/26/04	KBJ	40126
8260	Methyl Iodide	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
8260	4-Methyl-2-pentanone (MIBK)	50	< 50	ug/l	10/26/04	KBJ	40126
8260	Methylene chloride	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Styrene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,1,1,2-Tetrachloroethane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,1,2,2-Tetrachloroethane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Tetrachloroethene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Toluene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,1,1-Trichloroethane Compound analyzed at a 10X dilution.	10.0	190	ug/l	10/26/04	KBJ	40126
8260	1,1,2-Trichloroethane	0.5	< 0.5	ug/l	10/26/04	KBJ	40126

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10044: Page 2

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10044 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. PQL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Trichloroethene Compound analyzed at a 10X dilution.	10.0	780	ug/l	10/26/04	КВЈ	40126
8260	Trichlorofluoromethane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
8260	1,2,3-Trichloropropane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Vinyl acetate	50	< 50	ug/l	10/26/04	KBJ	40126
8260	Vinyl chloride	1	3	ug/l	10/26/04	KBJ	40126
8260	Xylene, Total	5	< 5	ug/l	10/26/04	KBJ	40126

End of Report

Report Approved By:

Peter J. Youll Laboratory Director

- CERTIFICATE OF ANALYSIS -

Report Date: 02-Nov-04

ANALYTICAL SCIENCES **COLUMBUS OPERATIONS**

> City of Columbia City, IN Wayne Reclamation and Recycling Facility Groundwater Monitoring

c/o 5085 Reed Road Columbus, OH 43220

Attn: BN-Mike Akins

American Analytical Lab #: 04-10045

Sample ID: Equipment Blank

Date Submitted to Lab: 10/25/04

Date Logged-In: 10/25/04

Client Project #: 34776

Matrix: Water

- SAMPLE COLLECTION INFORMATION -

Date: 10/22/04

Time 2:00 PM

By: Botley

Test Group	EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
NH3A	350.1	Ammonia	0.05	< 0.05	mg/l	10/27/04	JRW	40138
CL	4500-C1	Chloride	1	< 1	mg/l	10/26/04	JRW	40104
COD	410.4	Chemical Oxygen Demand	5	39	mg/l	10/25/04	MRW	40089
NAICP	6010/20	0 Sodium	0.10	< 0.10	mg/l	10/28/04	AAK	40145
8260-COLUM	BI 8260	Acetone	100	< 100	ug/l	10/25/04	KBJ	40098
	8260	Acrylonitrile	50	< 50	ug/l	10/25/04	KBJ	40098
	8260	Benzene	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromochloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromodichloromethane	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromoform	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Bromomethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon disulfide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Carbon tetrachloride	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chloroethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	Chloroform	5	< 5	ug/l	10/25/04	KBJ	40098
	8260	Chloromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
	8260	1,2-Dibromo-3-chloropropane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10045: Page 1

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10045 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Dibromochloromethane	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	1,2-Dibromoethane (EDB)	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Dibromomethane	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	1,2-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,4-Dichlorobenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Trans-1,4-Dichloro-2-Butene	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	1,1-Dichloroethane	1	< 1	ug/I	10/25/04	KBJ	40098
8260	1,2-Dichloroethane	5	< 5	ug/l	10/25/04	КВЈ	40098
8260	1,1-Dichloroethene	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	cis-1,2-Dichloroethene	0.5	< 0.5	ug/l	10/25/04	К ВЈ	40098
8260	trans-1,2-Dichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,2-Dichloropropane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	cis-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	trans-1,3-Dichloropropene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Ethylbenzene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	2-Hexanone	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methyl ethyl ketone	10	< 10	ug/l	10/25/04	KBJ	40098
8260	Methyl Iodide	10.0	< 10.0	ug/l	10/25/04	KBJ	40098
8260	4-Methyl-2-pentanone (MIBK)	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Methylene chloride	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Styrene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,2,2-Tetrachloroethane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Tetrachloroethene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Toluene	5	< 5	ug/l	10/25/04	KBJ	40098
8260	1,1,1-Trichloroethane	1	< 1	ug/l	10/25/04	KBJ	40098
8260	1,1,2-Trichloroethane	0.5	< 0.5	ug/l	10/25/04	KBJ	40098
8260	Trichloroethene	1	< 1	ug/l	10/25/04	KBJ	40098
8260	Trichlorofluoromethane	10.0	< 10.0	ug/l	10/25/04	KBJ	40098

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10045: Page 2

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10045 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. RDL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	1,2,3-Trichloropropane	5	< 5	ug/l	10/25/04	KBJ	40098
8260	Vinyl acetate	50	< 50	ug/l	10/25/04	KBJ	40098
8260	Vinyl chloride	1	< 1	ug/l	10/25/04	KBJ	40098
8260	Xylene, Total	5	< 5	ug/l	10/25/04	KBJ	40098

End of Report

Report Approved By:

Peter J. Youll
Laboratory Director

- CERTIFICATE OF ANALYSIS -

Sample ID: Trip Blank

Report Date: 11-Nov-04

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

City of Columbia City, IN
Wayne Reclamation and Recycling Facility
Groundwater Monitoring
c/o 5085 Reed Road
Columbus, OH 43220

Attn: BN-Mike Akins

American Analytical Lab #: 04-10967

Date Submitted to Lab: 10/25/04 Date Logged-In: 11/10/04

Client Project #: 34776 Matrix: G/Water

- SAMPLE COLLECTION INFORMATION -

Date: 10/22/04 Time By: Lab

Test Group	EPA Method	Test	Calc. PQL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUM	BI 8260	Acetone	100	< 100	ug/l	10/26/04	КВЈ	40126
	8260	Acrylonitrile	50	< 50	ug/l	10/26/04	· KBJ	40126
	8260	Benzene	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromochloromethane	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromodichloromethane	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromoform	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Bromomethane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	Carbon disulfide	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	Carbon tetrachloride	5	< 5	ug/l	10/26/04	КВЈ	40126
	8260	Chlorobenzene	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Chloroethane	10.0	< 10.0	ug/l	10/26/04	КВЈ	40126
	8260	Chloroform	5	< 5	ug/l	10/26/04	KBJ	40126
	8260	Chloromethane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	1,2-Dibromo-3-chloropropane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
	8260	Dibromochloromethane	5	< 5	ug/l	10/26/04	КВЈ	40126
	8260	1,2-Dibromoethane (EDB)	5	< 5	ug/l	10/26/04	КВЈ	40126
	8260	Dibromomethane	5	< 5	ug/l	10/26/04	KBJ	40126

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10967: Page 1

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10967 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. PQL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	1,2-Dichlorobenzene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,4-Dichlorobenzene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Trans-1,4-Dichloro-2-Butene	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
8260	1,1-Dichloroethane	1	< 1	ug/l	10/26/04	KBJ	40126
8260	1,2-Dichloroethane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,1-Dichloroethene	0.5	< 0.5	ug/l	10/26/04	KBJ	40126
8260	cis-1,2-Dichloroethene	0.5	< 0.5	ug/l	10/26/04	KBJ	40126
8260	trans-1,2-Dichloroethene	1	< 1	ug/l	10/26/04	KBJ	40126
8260	1,2-Dichloropropane	1	< 1	ug/l	10/26/04	KBJ	40126
8260	cis-1,3-Dichloropropene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	trans-1,3-Dichloropropene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Ethylbenzene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	2-Hexanone	50	< 50	ug/l	10/26/04	KBJ	40126
8260	Methyl ethyl ketone	10	< 10	ug/l	10/26/04	KBJ	40126
8260	Methyl Iodide	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
8260	4-Methyl-2-pentanone (MIBK)	50	< 50	ug/l	10/26/04	KBJ	40126
8260	Methylene chloride	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Styrene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,1,1,2-Tetrachloroethane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,1,2,2-Tetrachloroethane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Tetrachloroethene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Toluene	5	< 5	ug/l	10/26/04	KBJ	40126
8260	1,1,1-Trichloroethane	1	< 1	ug/l	10/26/04	KBJ	40126
8260	1,1,2-Trichloroethane	0.5	< 0.5	ug/l	10/26/04	KBJ	40126
8260	Trichloroethene	1	< 1	ug/l	10/26/04	KBJ	40126
8260	Trichlorofluoromethane	10.0	< 10.0	ug/l	10/26/04	KBJ	40126
8260	1,2,3-Trichloropropane	5	< 5	ug/l	10/26/04	KBJ	40126
8260	Vinyl acetate	50	< 50	ug/l	10/26/04	KBJ	40126

Ohio Lab Approval # 4032 - Ohio VAP Certificate # CL0042 - US EPA Lab # OH0020

Lab Number 04-10967: Page 2

- CERTIFICATE OF ANALYSIS -

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

Lab Number 04-10967 -Continued from Previous Page

Test Group

EPA Method	Test	Calc. PQL	Final Result	Units	Analysis Date	Analyst	WS#
8260-COLUMBI 8260	Vinyl chloride	1	< 1	ug/l	10/26/04	KBJ	40126
8260	Xylene, Total	5	< 5	ug/l	10/26/04	KBJ	40126

End of Report

Report Approved By:

Peter J. Youll Laboratory Director

ANALYTICAL SCIENCES • COLUMBUS OPERATIONS

American Analytical Laboratories, Inc. **Columbus Operations**

Quality Assurance Report

CLIENT:

Burgess & Niple, Inc.

CLIENT CONTACT:

Mike Akins

CLIENT PROJECT NO: 34776

PROJECT NAME:

City of Columbia City, IN

SAMPLING EVENT:

October 22, 2004

DATE PREPARED:

December 8, 2004

City of Columbia City, IN October 2004 Sampling Event Sample Inventory

AAL Sample ID	BN Sample ID	Date Collected	Time Collected	Collected by
04-10040	GM-1	10/22/04	12:25 pm	Stephen Botley
04-10041	GM-2	10/22/04	1:05 pm	Stephen Botley
04-10042	GM-4	10/22/04	1:40 pm	Stephen Botley
04-10043	GM-3	10/22/04	2:25 pm	Stephen Botley
04-10044	GM-Duplicate	10/22/04		Stephen Botley
04-10045	Equipment Blank	10/22/04		Stephen Botley
04-10967	Trip Blank	10/22/04		Stephen Botley

Case Narratives

Ammonia, Chloride, COD

Worksheet Nos. 40138, 40104, 40089

• No deviations. Analysis had all QC points within limits.

Sodium (6010A)

Worksheet No. 40145

• No deviations. Analysis had all QC points within limits.

Volatile Organic Compounds (8260A)

Worksheet No. 40098

- All instrument QC associated with these samples passed.
- All sample QC within limits.
- Sample 10042 & 10044 analyzed at a 10x dilution for cis-1,2-DCE, 111TCA, and TCE. All other compounds analyzed and reported undiluted.

Field Parameters

Worksheet No. 40108

 These results were provided to the laboratory on the COC and added to the report per client request.

Volatile Surrogate Coumpound Recovery

Volatile Surrogate Recovery Report

WS#40126

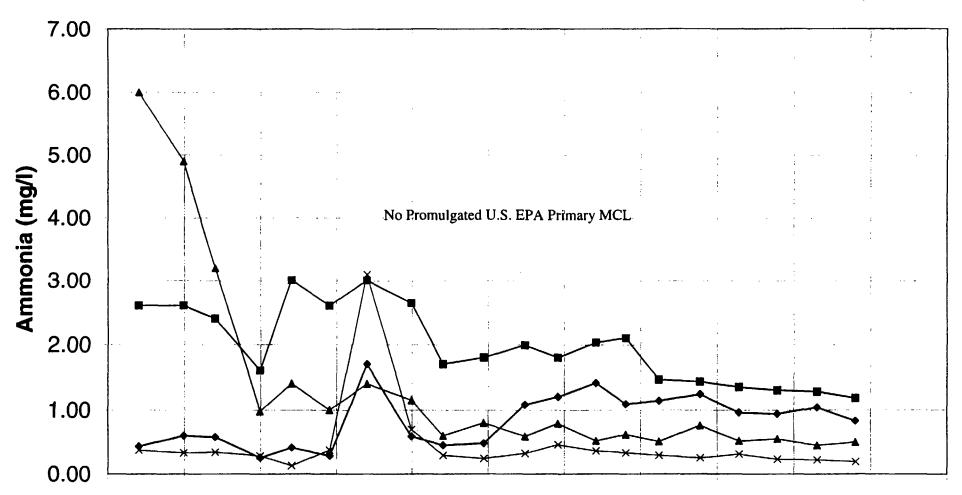
Lab#	Surrogate Cmpd.	% recovery	Range
LCS std	DBFM	99.9	80-120
	1,2-dce-d4	95.8	80-120
	toluene-d8	100.4	80-120
	4-bfb	100.3	80-120
LCS std	DBFM	100.2	80-120
	1,2-dce-d4	98.4	80-120
	toluene-d8	100.4	80-120
	4-bfb	101.0	80-120
Blank	DBFM	101.7_	80-120
	1,2-dce-d4	101.1	80-120
	toluene-d8	97.6	80-120
	4-bfb	98.0	80-120
Blank	DBFM	101.6	80-120
	1,2-dce-d4	100.9	80-120
	toluene-d8	96.8	80-120
	4-bfb	102.4	80-120
04-10044	DBFM	103.2	80-120
10X	1,2-dce-d4	102.6	80-120
	toluene-d8	98.5	80-120
	4-bfb	101.2	80-120
	· · · · · · · · · · · · · · · · · · ·		
04-10045TB	DBFM	101.9	80-120
	1,2-dce-d4	104.8	80-120
	toluene-d8	97.0	80-120
	4-bfb	100.8	80-120
	r · · · · · · · · · · · · · · · · · · ·		
04-10044	DBFM	95.8	80-120
	1,2-dce-d4	104.4	80-120
	toluene-d8	98.3	80-120
	4-bfb	99.9	80-120
	г————————————————————————————————————		
04-10044MS	DBFM	100.5	80-120
10X	1,2-dce-d4	100.4	80-120
	toluene-d8	100.7	80-120

Volatile Surrogate Coumpound Recovery

Lab#	Surrogate Cmpd.	% recovery	Range
	4-bfb	99.3	80-120
04-10044MSD	DBFM	99.1	80-120
10X	1,2-dce-d4	99.0	80-120
	toluene-d8	99.0	80-120
	4-bfb	100.1	80-120
			.
04-10010	DBFM	101.8	80-120
	1,2-dce-d4	101.9	80-120
	toluene-d8	95.8	80-120
	4-bfb	101.3	80-120
-			<u></u>
04-10010	DBFM	36.90 ***	80-120
200X	1,2-dce-d4	116.9	80-120
	toluene-d8	90.1	80-120
	4-bfb	101.4	80-120
04-10010	DBFM	0.60 ****	80-120
50X	1,2-dce-d4	176.10***	80-120
	toluene-d8	4621.5 ***	80-120
	4-bfb	125.94 ***	80-120
blank	DBFM	102.8	80-120
	1,2-dce-d4	105.9	80-120
	toluene-d8	94.8	80-120
	4-bfb	114.8	80-120
	····		· · · · · · · · · · · · · · · · · · ·
blank	DBFM	106.0	80-120
	1,2-dce-d4	<u>110.9</u>	80-120
	toluene-d8	94.0	80-120
	4-bfb	105.7	80-120
			
blank	DBFM	101.9	80-120
	1,2-dce-d4	109.2	80-120
	toluene-d8	95.6	80-120
	4-bfb	104.5	80-120

ATTACHMENT 3 TIME-VERSUS-CONCENTRATION PLOTS

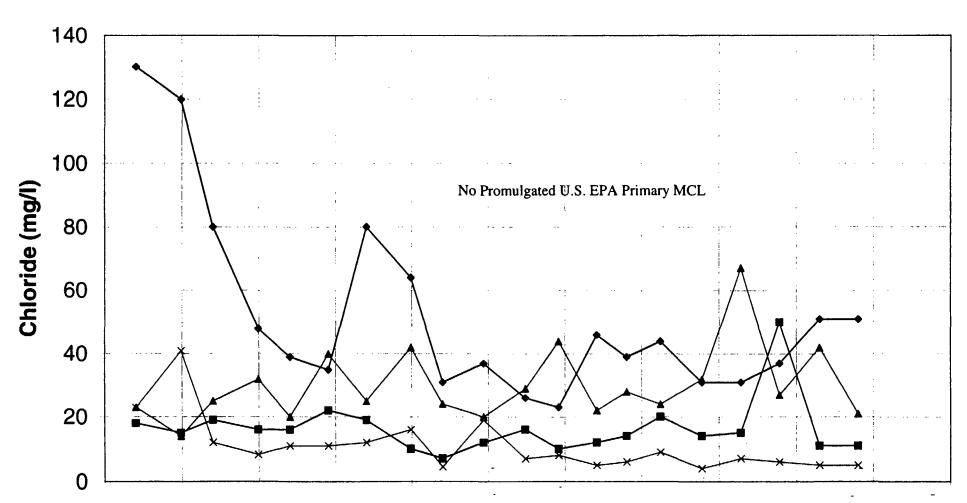
Ammonia Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

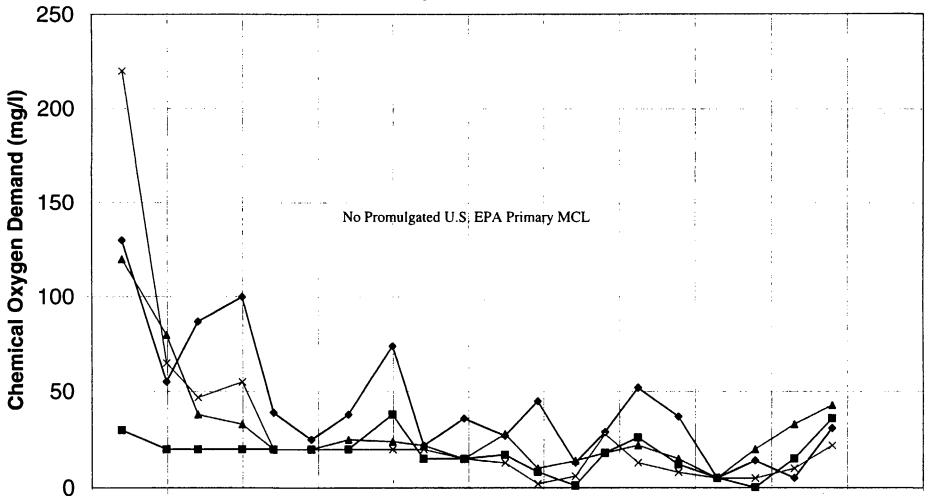
---- GM-01 ---- GM-02 ---- GM-03 ---- GM-04

Chloride Groundwater Concentrations WRR Facility, Columbia City, IN



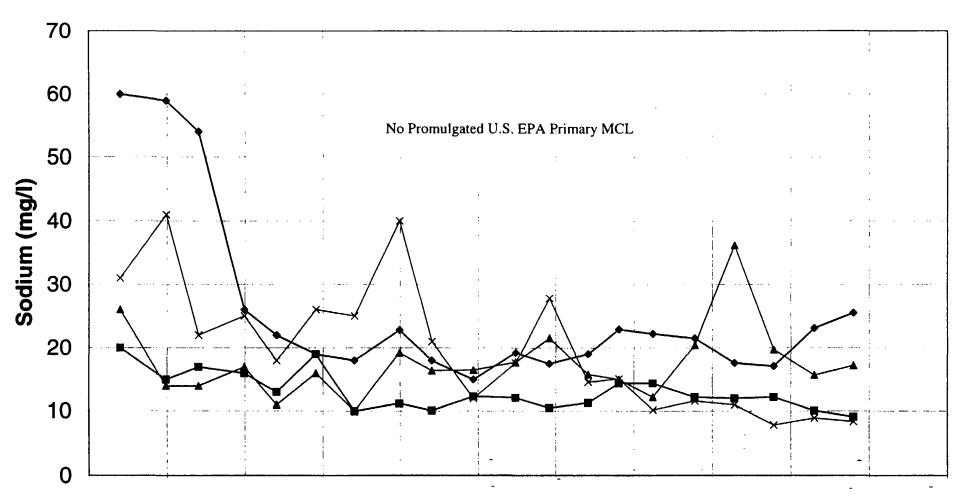
Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

Chemical Oxygen Demand Groundwater Concentrations WRR Facility, Columbia City, IN



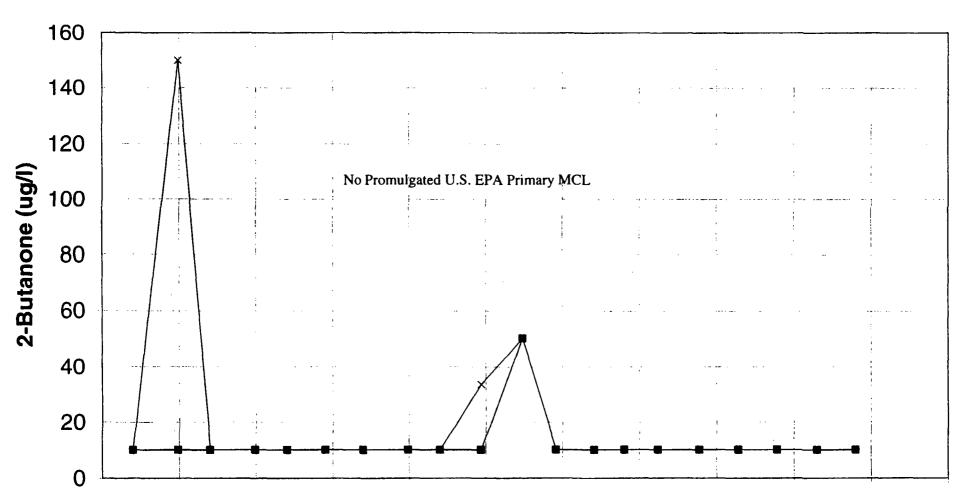
Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

Sodium Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

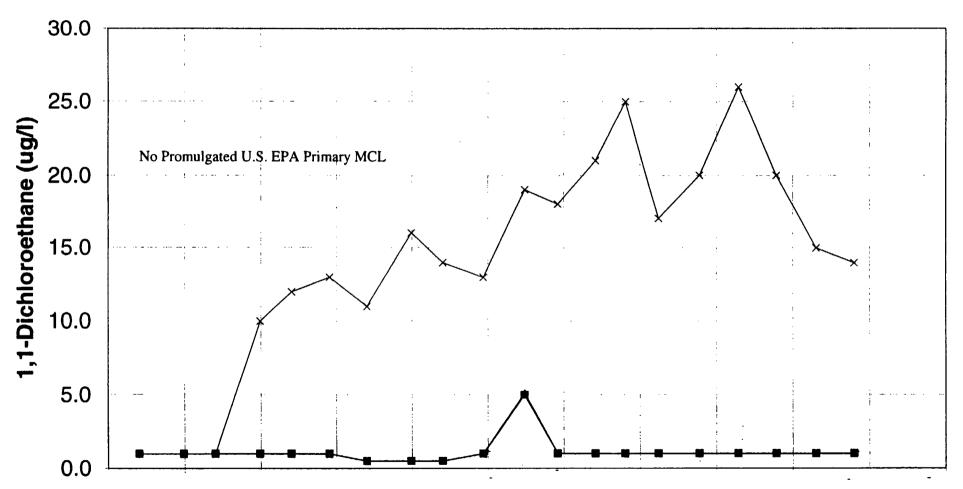
2-Butanone (MEK) Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 **Sample Date**

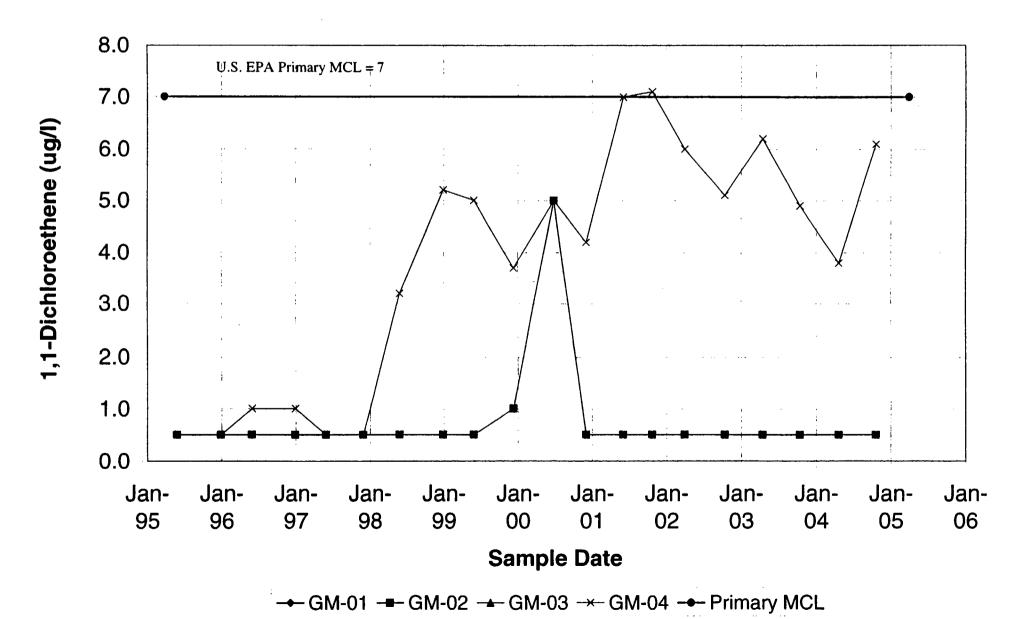
---- GM-01 ---- GM-02 ---- GM-03 ---- GM-04

1,1-Dichloroethane Groundwater Concentrations WRR Facility, Columbia City, IN

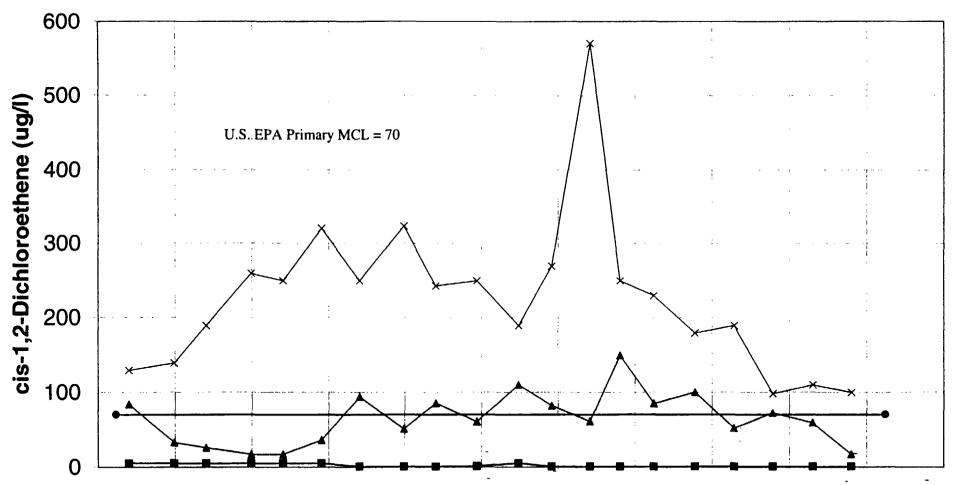


Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

1,1-Dichloroethene Groundwater Concentrations WRR Facility, Columbia City, IN



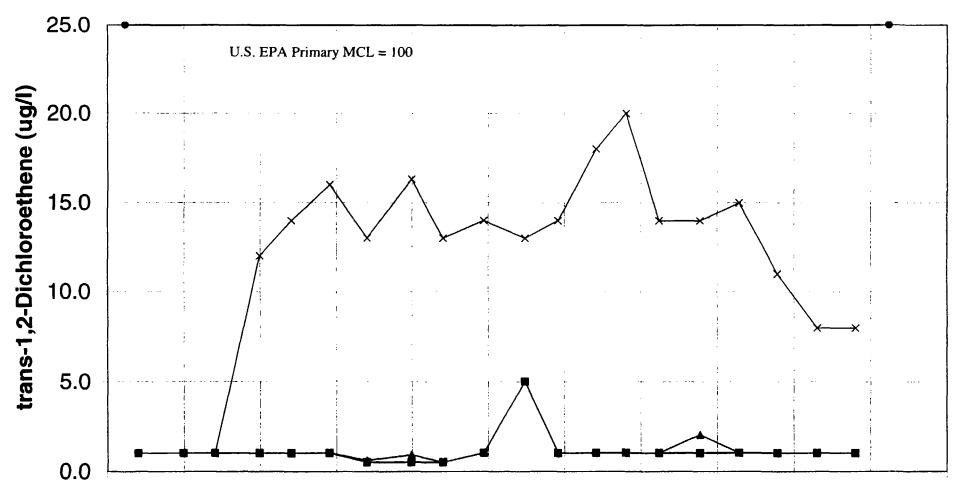
cis-1,2-Dichloroethene Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

--- GM-01 --- GM-02 --- GM-03 --- Primary MCL

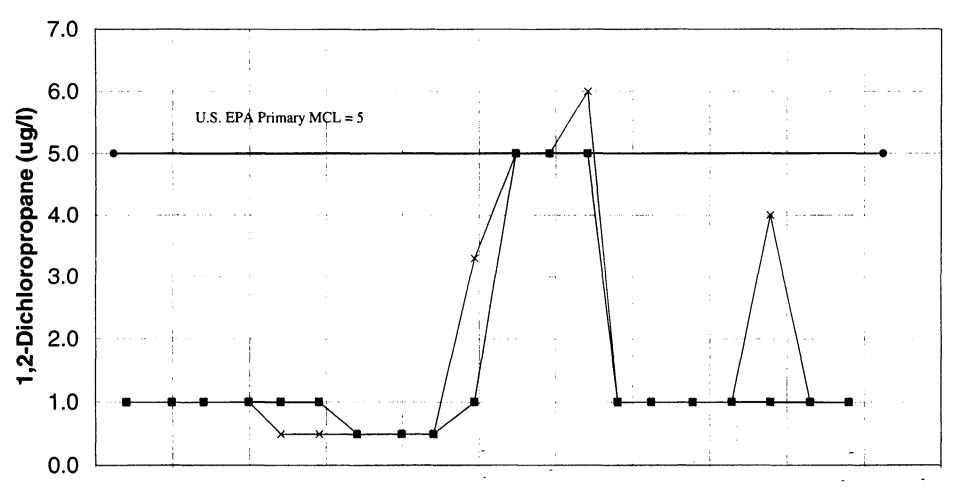
trans-1,2-Dichloroethene Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

→ GM-01 - GM-02 - GM-03 - GM-04 - Primary MCL

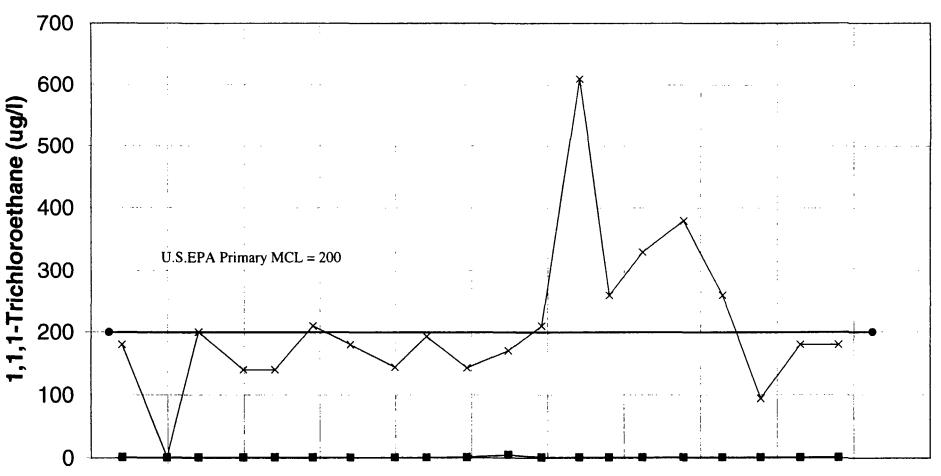
1,2-Dichloropropane Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

---- GM-01 ---- GM-02 ---- GM-03 ---- GM-04 ---- Primary MCL

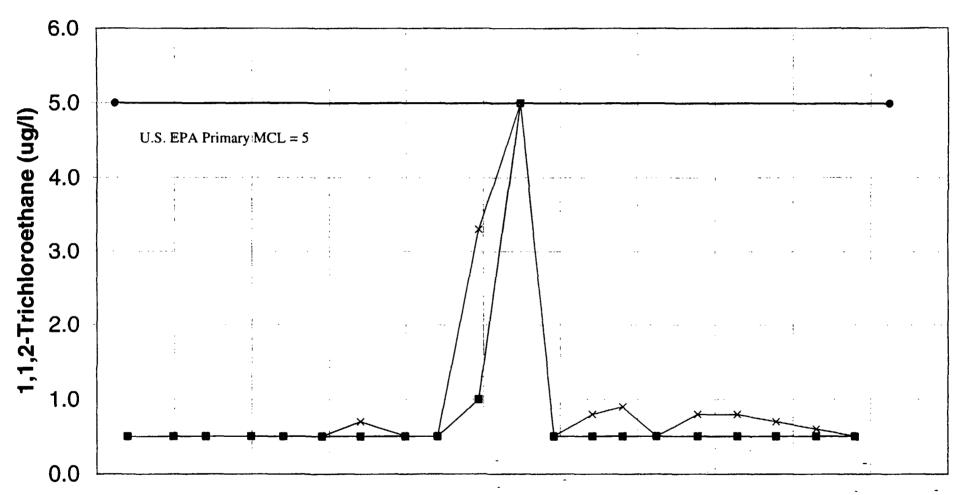
1,1,1-Trichloroethane Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

--- GM-01 --- GM-02 --- GM-03 --- Primary MCL

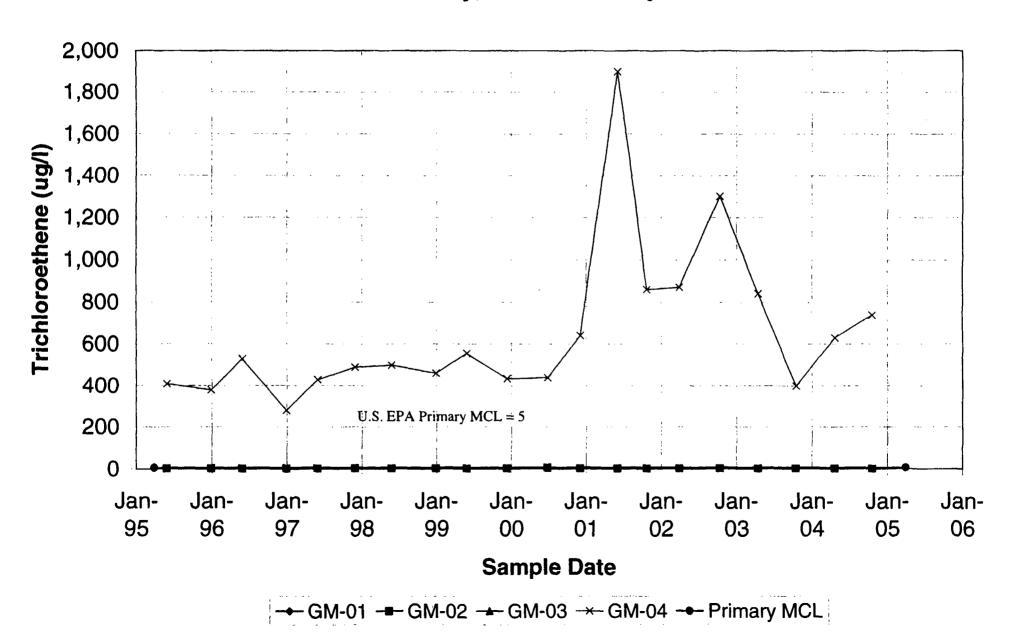
1,1,2-Trichloroethane Groundwater Concentrations WRR Facility, Columbia City, IN



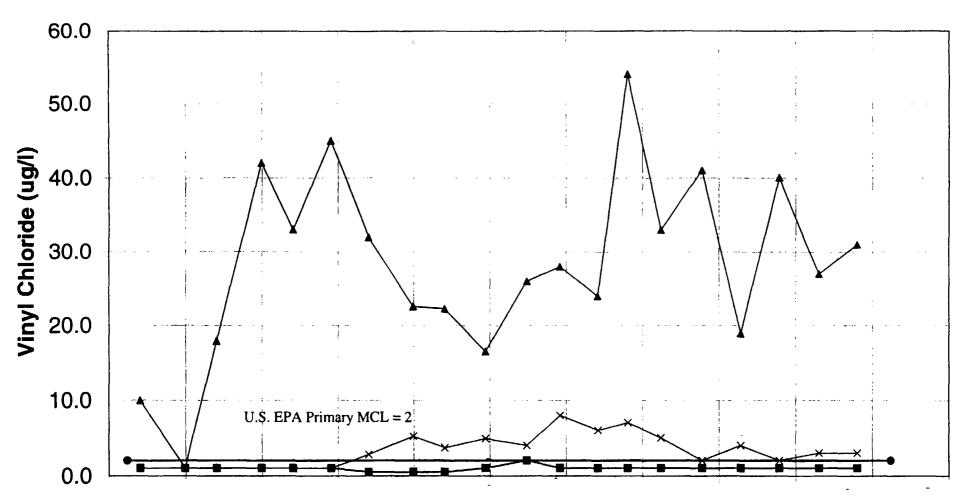
Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

--- GM-01 --- GM-02 --- GM-03 --- GM-04 --- Primary MCL

Trichloroethene Groundwater Concentrations WRR Facility, Columbia City, IN



Vinyl Chloride Groundwater Concentrations WRR Facility, Columbia City, IN



Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Sample Date

APPENDIX B

DATA VALIDATION REPORT

APPENDIX B

DATA VALIDATION REPORT SEMI-ANNUAL PROGRESS REPORT 19 January 2005

Wayne Reclamation & Recycling

Groundwater, air, and associated quality control (QC) samples were collected from the Wayne Reclamation & Recycling Site in Columbia City, Indiana between July and December 2004. The water samples were analyzed by Pace Analytical Services, Inc. (Pace) of Indianapolis, Indiana for one or more of the following parameters: volatile organic compounds (VOCs) by United States Environmental Protection Agency (U.S. EPA) Method SW-846 8260B; total cyanide by U.S. EPA Method 335.3; dissolved metals (arsenic, barium, cadmium, chromium, lead, nickel, and zinc) by U.S. EPA Method SW-846 6010B; total suspended solids by U.S. EPA Method 160.2; nitrogen by U.S. EPA Method 353.2; phosphorus by U.S. EPA Method 365.2; chemical oxygen demand by U.S. EPA Method 410.4; biological oxygen demand by U.S. EPA Method 405.1; phenolics (total phenols) by U.S. EPA Method 420.2; total solids by U.S EPA Method 160.3; and ammonia by U.S. EPA Method 350.1. Additional water samples were analyzed by Pace of Lenexa, Kansas for the following parameters: HEM oil and grease by U.S. EPA Method 1664A, total Kjeldahl nitrogen by U.S. EPA Method 351.2, and surfactants by U.S. EPA Method 425.1. Air samples were analyzed for VOCs by Pace of Minneapolis, Minnesota via U.S. EPA Method TO-14.

Laboratory analytical results were evaluated in accordance with the U.S. EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Data Review (October 1999), U.S. EPA CLP NFG for Inorganic Data Review (October 2004), and the analytical methods. The analytical data were reviewed and qualified based on the results of the data evaluation parameters and/or the QC sample results provided by the laboratory.

The following summarizes the review of the analytical data that did not meet the QC criteria:

The laboratory indicated that the initial calibration (IC) associated with the VOC analysis of air sample EFFLUENT AIR #494 indicated percent recoveries outside the acceptance criteria for 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, and

hexachloro-1,3-butadiene. Therefore, the associated sample was flagged "J" as estimated for these compounds.

- The laboratory control sample (LCS) associated with the VOC analysis of air sample EFFLUENT AIR #494 indicated percent recoveries outside the acceptance criteria with high biases for dichlorodifluoromethane (135%). 1,2-dibromoethane (131%),o-xylene (132%), styrene (135%), 1,3,5-trimethylbenzene (174%), 1,2,3-trimethylbenzene (189%),1,4-dichlorobenzene (159%),1,2-dichlorobenzene (376%), and hexachloro-1,3-butadiene (1,660%). Since these reflect a high bias, and the compounds were not detected in the associated sample, no flags were issued. The same LCS indicated a percent recovery of zero for 1,2,4-trichlorobenzene. Therefore, the associated sample was flagged "R" as rejected for 1,2,4-trichlorobenzene.
- The laboratory indicated that the IC associated with the VOC analysis of air samples EFFLUENT AIR #547 and EFFLUENT AIR #62 indicated percent recoveries outside the acceptance criteria for 1,2,4-trichlorobenzene and hexachloro-1,3-butadiene. Therefore, the associated samples were flagged "J" as estimated for these compounds.
- The LCS associated with the VOC analysis of air sample EFFLUENT AIR #62 indicated a percent recovery outside the acceptance criteria with a low bias for hexachloro-1,3-butadiene (29%). Since this reflects a low bias, the associated sample was flagged "J" as estimated for this compound. The same LCS indicated a percent recovery of zero for 1,2,4-trichlorobenzene. Therefore, the associated sample was flagged "R" as rejected for 1,2,4-trichlorobenzene.
- The LCS associated with the VOC analysis of groundwater samples MW-83AS, MW-4S, MW-9S, MW-14S, MW-10S, MW-14S-DUPLICATE. GROUNDWATER, INFLUENT and TREATMENT PLANT EFFLUENT indicated percent recoveries outside the acceptance criteria with low biases for dichlorodifluoromethane (56%),chloromethane (52%),and chloroethane (48%). Since these reflect a low bias, the associated samples were flagged "J" as estimated for these compounds.

- The LCS associated with the VOC analysis of groundwater samples MW-14S-FIELD BLANK, TRIP BLANK. INFLUENT GROUNDWATER-DUP, and TREATMENT PLANT EFF-DUP indicated percent recoveries outside the acceptance criteria with low 1,2,4-trichlorobenzene biases for (58%)and 1,2,3-trichlorobenzene (50%). Since these reflect a low bias, the associated samples were flagged "J" as estimated for these compounds. The same LCS indicated a percent recovery of zero for naphthalene. Therefore, the associated samples were flagged "R" as rejected for naphthalene. Additionally, the same LCS indicated a percent recovery outside the acceptance criteria with a high bias for n-butylbenzene (140%). Since this reflects a high bias, and there were no detections of this compound in the associated samples, no flags were issued.
- The method blank associated with the VOC analysis of groundwater samples MW-4S, MW-9S, MW-10S, MW-14S, MW-83AS, MW-14S-DUPLICATE, INFLUENT GROUNDWATER, TREATMENT PLANT EFFLUENT indicated detections 1,2,4-trichlorobenzene (1.2)micrograms liter [µg/L]), per naphthalene (9.1 μg/L), and 1,2,3-trichlorobenzene (5.8 μg/L). Since there were no detections of these compounds in the associated samples, no flags were issued.
- The laboratory indicated that the IC associated with the VOC analysis of air samples EFFLUENT AIR, EFFLUENT AIR DUPLICATE, AST-EAST, and SOUTHEAST AREA COMPOSITE indicated percent recoveries outside the acceptance criteria for methylene chloride, 1,2,4-trichlorobenzene, and hexachloro-1,3-butadiene. Therefore, the associated samples were flagged "J" as estimated for these compounds.
- The LCS associated with the VOC analysis of air samples EFFLUENT AIR, EFFLUENT AIR DUPLICATE, AST-EAST, and SOUTHEAST AREA COMPOSITE indicated percent recoveries outside the acceptance criteria with low biases for methylene chloride (45%), styrene (63%),1,1,2,2-trichloroethane (59%),1,3,5-trimethylbenzene (48%), 1,2,4-trimethylbenzene (46%),1,4-dichlorobenzene (46%), 1,3-dichlorobenzene (48%),1,2,4-trichlorobenzene (6%), 1,2-dichlorobenzene (40%), and hexachloro-1,3-butadiene (17%). Since these reflect a low bias, the

- associated samples were flagged "J" as estimated for these compounds.
- The method blank associated with the VOC analysis of air samples EFFLUENT AIR, EFFLUENT AIR DUPLICATE, AST-EAST, and SOUTHEAST AREA COMPOSITE indicated a detection of methylene chloride (0.8 parts per billion by volume [ppbv]). Samples with detections of methylene chloride at concentrations less than five times the method blank concentration were flagged "B" to indicate blank contamination.
- The laboratory indicated that the IC associated with the VOC analysis of air samples SOUTHEAST AREA COMPOSITE and AIR SAMPLING BLANK indicated percent recoveries outside the acceptance criteria for 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, and hexachloro-1,3-butadiene. Therefore, the associated samples were flagged "J" as estimated for these compounds.
- The LCS associated with the VOC analysis of air samples SOUTHEAST AREA COMPOSITE and AIR SAMPLING BLANK indicated percent recoveries outside the acceptance criteria with low biases for 1,2,4-trichlorobenzene (3%) and hexachloro-1,3-butadiene (32%). The associated samples were flagged "J" as estimated for these compounds.
- The LCS associated with the VOC analysis of air sample EFFLUENT AIR (5/18/2004) indicated percent recoveries outside the acceptance criteria with low biases for 1,2,4-trichlorobenzene (2%) and 1,3-trichlorobenzene (63%). Since these reflect a low bias, the associated sample was flagged "J" as estimated for these compounds.
- The laboratory indicated that the IC associated with the VOC analysis of the air sample EFFLUENT AIR (5/18/2004) indicated percent recoveries outside the acceptance criteria for 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, and hexachloro-1,3-butadiene. Therefore, the associated sample was flagged "J" as estimated for these compounds.
- The laboratory indicated that the continuing calibration verification (CCV) associated with the VOC analysis of the air sample EFFLUENT AIR (5/18/2004) indicated a percent recovery outside the acceptance criteria with a low bias for 1,3-dichlorobenzene. Since this

reflects a low bias, the associated sample was flagged "J" as estimated for this compound.

- The method blank associated with the VOC analysis of groundwater samples INFLUENT GROUNDWATER (5/18/2004) and TREATMENT PLANT EFFLUENT (5/18/2004) indicated detections of naphthalene (2.8 μg/L) and 1,2,3-trichlorobenzene (1.5 μg/L). Since there were no detections of these compounds in the associated samples, no flags were issued.
- The LCS associated with the VOC analysis of air sample EFFLUENT AIR (6/23/2004) indicated percent recoveries outside the acceptance criteria with low biases for 1,2,4-trichlorobenzene (64%) and carbon tetrachloride (58%). Since these reflect a low bias, the associated sample was flagged "J" as estimated for these compounds.
- The laboratory indicated that the CCV associated with the VOC analysis of the air sample EFFLUENT AIR (6/23/2004) indicated percent recoveries outside the acceptance criteria with low biases for 1,2,4-trichlorobenzene and carbon tetrachloride. Since these reflect a low bias, the associated sample was flagged "J" as estimated for these compounds.
- The LCS associated with the VOC analysis of groundwater samples INFLUENT GROUND WATER (6/23/2004) and TREATMENT PLANT EFFLUENT (6/23/2004) indicated percent recoveries outside the acceptance criteria with a high bias for methyl-tert-butyl ether (141%). Since this reflects a high bias, and the compound was not detected in the associated samples, no flags were issued.
- The method blank associated with the VOC analysis of groundwater samples INFLUENT GROUND WATER (6/23/2004) and TREATMENT PLANT EFFLUENT (6/23/2004) indicated detections of 1,2,4-trichlorobenzene (1.1 μg/L), naphthalene (2.3 μg/L), and 1,2,3-trichlorobenzene (1.5 μg/L). Since there were no detections of these compounds in the associated samples, no flags were issued.
- The laboratory indicated that the 5-times analysis of TREATMENT PLANT EFFLUENT (6/23/2004) for cis-1,2-dichlorobenzene was run

- outside of hold time. Therefore, the associated sample was flagged "J" as estimated for this compound.
- The laboratory indicated that the IC associated with the VOC analysis of the air sample EFFLUENT AIR (7/30/2004) indicated a percent recovery outside the acceptance criteria for hexachloro-1, 3-butadiene. Therefore, the associated sample was flagged "J" as estimated for this compound.
- The laboratory indicated that the IC associated with the VOC analysis of the air sample EFFLUENT AIR (8/31/2004) indicated percent recoveries outside the acceptance criteria for 1,4-dichlorobenzene and 1,2,4-trichlorobenzene. Therefore, the associated sample was flagged "J" as estimated for these compounds.
- The laboratory indicated that the CCV associated with the VOC analysis of the air sample EFFLUENT AIR (8/31/2004) indicated a percent recovery outside the acceptance criteria with a low bias for hexachloro-1,3-butadiene. Since this reflects a low bias, the associated sample was flagged "J" as estimated for this compound.
- The LCS associated with the VOC analysis of air sample EFFLUENT AIR (8/31/04) indicated percent recoveries outside the acceptance criteria with low biases for 1,2,4-trichlorobenzene (26%) and hexachloro-1, 3-butadiene (34%). Since this reflects a low bias, the associated sample was flagged "J" as estimated for these compounds.
- The method blank associated with the VOC analysis of groundwater samples INFLUENT GROUNDWATER (10/4/2004) and TREATMENT PLANT EFFLUENT (10/4/2004) indicated a detection of 1,2,3-trichlorobenzene (1.6 μg/L). Since there were no detections of this compound in the associated samples, no flags were issued.
- The laboratory indicated that the IC associated with the VOC analysis of the air samples EFFLUENT AIR (10/19/04), EFFLUENT AIR DUP (10/19/2004), SVE-GH (10/19/2004), SVE-AF-AS-ON (10/19/2004), and SVE-AF-AS-OFF (10/19/2004) indicated percent recoveries outside the acceptance criteria for 1,2,4-trichlorobenzene and hexachloro-1, 3-butadiene. Therefore, the associated sample was flagged "J" as estimated for these compounds.

- The LCS associated with the VOC analysis of groundwater samples EFFLUENT AIR (10/19/04), EFFLUENT AIR DUP (10/19/2004), SVE-GH (10/19/2004). SVE-AF-AS-ON (10/19/2004),SVE-AF-AS-OFF (10/19/2004) indicated percent recoveries outside criteria with low biases the acceptance for 1.2.4-trichlorobenzene (40%) and hexachloro-1, 3-butadiene (38%). Since these reflect a low bias, the associated samples were flagged "J" as estimated for these compounds.
- The equipment blank associated with the VOC analysis of air samples EFFLUENT AIR (10/19/04), EFFLUENT AIR DUP (10/19/2004), SVE-GH (10/19/2004), SVE-AF-AS-ON (10/19/2004), and SVE-AF-AS-OFF (10/19/2004) indicated detections of cis-1,2-dichloroethene (6.3 ppbv), THC as gas (38.1 ppbv), trichloroethene (3.6 ppbv), and vinyl chloride (2.6 ppbv). Since the detections of these compounds in the associated samples were all less than 20 times the blank concentration, the samples were flagged "UB" as not detected due to blank contamination.
- The method blank associated with the VOC analysis of groundwater samples MW-15S (10/19/2004), MW-16S (10/19/2004), MW-11S (10/19/2004), MW-7S (10/19/2004), MW-83AD (10/19/2004), MW-83B (10/19/2004), and MW-1D (10/19/2004) indicated detections of 1,2,3-trichlorobenzene (2.5 μg/L), 1,2,4-trichlorobenzene (1.6 μg/L), and naphthalene (4.5 μg/L). Since there were no detections of these compounds in the associated samples, no flags were issued.
- The LCS associated with the VOC analysis of groundwater samples (10/19/2004),MW-15S MW-16S (10/19/2004),MW-11S (10/19/2004), MW-7S (10/19/2004), MW-83AD (10/19/2004), MW-83B (10/19/2004), and MW-1D (10/19/2004) indicated percent recoveries outside the acceptance criteria with high biases for 1,2-dichlorobenzene (125%),1,2,3-trichlorobenzene (203%),1,2,4-trichlorobenzene (151%), and naphthalene (207%). Since these reflect a high bias, and there were no detections of these compounds in the associated samples, no flags were issued.
- The method blank associated with the VOC analysis of groundwater samples INFLUENT GROUNDWATER (10/21/2004), INFLUENT GROUNDWATER DUP (10/21/2004), EFFLUENT

GROUNDWATER (10/21/04), and EFFLUENT GROUNDWATER DUP (10/21/2004) indicated a detection of 1,2,3-trichlorobenzene (1.3 μ g/L). Since there were no detections of this compound in the associated samples, no flags were issued.

- The LCS associated with the VOC analysis of groundwater samples INFLUENT GROUNDWATER (10/21/2004), INFLUENT GROUNDWATER DUP (10/21/2004), EFFLUENT GROUNDWATER (10/21/04), and EFFLUENT GROUNDWATER DUP (10/21/2004) indicated a percent recovery outside the acceptance criteria with a low bias for methylene chloride (37%). Since this reflects a low bias, the associated samples were flagged "J" as estimated for this compound.
- The method blank associated with the VOC analysis of groundwater samples MW-83A (10/22/2004) and PW-8 (10/22/2004) indicated detections of 1,2,3-trichlorobenzene (2.5 μg/L), 1,2,4-trichlorobenzene (1.6 μg/L), and naphthalene (4.5 μg/L). Since there were no detections of these compounds in the associated samples, no flags were issued.
- The LCS associated with the VOC analysis of groundwater samples MW-83A (10/22/2004) and PW-8 (10/22/2004) indicated percent recoveries outside the acceptance criteria with high biases for 1,2-dichlorobenzene (125%), 1,2,3-trichlorobenzene (203%), 1,2,4-trichlorobenzene (151%), and naphthalene (207%). Since these reflect a high bias and there were no detections of these compounds in the associated samples, no flags were issued.
- The matrix spike associated with the metals analyses of samples MW-83A (10/22/2004) and PW-8 (10/22/2004) indicated percent recoveries outside the acceptance criteria with high biases for calcium and magnesium. Since these reflect a high bias, only samples with detections of these compounds were flagged "J" as estimated.
- The method blank associated with the VOC analysis of groundwater samples MW-13S (10/22/2004) and MW-83DS (10/22/2004) indicated a detection of 1,2,3-trichlorobenzene (1.3 μg/L). Since there were no detections of this compound in the associated samples, no flags were issued.

- The matrix spike/matrix spike duplicate associated with the VOC analysis of groundwater samples MW-13S (10/22/2004) and MW-83DS (10/22/2004) indicated a percent recovery outside the acceptance criteria with a high bias for trichloroethene. Since this reflects a high bias, and there were no detections of this compound in the associated samples, no flags were issued.
- The method blank associated with the VOC analysis of groundwater samples RW-1 (10/22/2004), RW-3 (10/22/2004), RW-4 (10/22/2004), RW-5 (10/22/2004), and RW-5 DUP (10/22/2004) indicated a detection of 1,2,3-trichlorobenzene (1.3 μg/L). Since there were no detections of this compound in the associated samples, no flags were issued.
- The laboratory indicated that the IC associated with the VOC analysis of the air sample EFFLUENT AIR (11/22/2004) indicated a percent recovery outside the acceptance criteria for 1,2,4-trichlorobenzene. Therefore, the associated sample was flagged "J" as estimated for these compounds.
- The laboratory indicated that the IC associated with the VOC analysis of the air sample EFFLUENT AIR (12/17/2004) indicated a percent recovery outside the acceptance criteria for 1,2,4-trichlorobenzene. Therefore, the associated sample was flagged "J" as estimated for these compounds.

Based on the results of this data validation, all data are considered valid and complete as qualified, with the exception of the rejected sample results.

KER/AJP/DMK

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DIX C

FIELD ACTIVITIES
ECEMBER 2004

APPENDIX C

SUMMARY OF MAJOR FIELD ACTIVITIES JULY THROUGH DECEMBER 2004

Wayne Reclamation & Recycling

Date	Description of Field Activities and Events
July 2004	 Monthly groundwater treatment system VOC influent and effluent and treatment system air sampling conducted, groundwater level measurements collected, and SVE air flow rates measured in SE and AST Areas.
	• General maintenance activities conducted: drained knockout tank, cleaned flow meters in AST and SE Areas, switched blowers, increased stripper air flow at FL-3-4, worked with positioner for FCV-3 (stripper), removed and repaired actuator for FCV-3.
	 Serviced AC-1: installed new intake filter, added oil, checked inlet throttle valve, cleaned inlet valve moisture trap, reduced dryer cycle to 4 minutes due to humidity.
	 Pulled, cleaned, and reinstalled RW-3, RW-5, RW-8, RW-9, and RW-10 pumps.
	Site mowed and trimmed, and plant cleaned.
August 2004	Monthly groundwater treatment system VOC influent and effluent and treatment system air sampling conducted, groundwater level measurements collected, and SVE air flow rates measured in SE and AST Areas.
	• General maintenance activities conducted: drained knockout tank, cleaned level sensor stick at T-1, checked condensate pump in SE Area and repaired air supply hose.
	Annual plant maintenance conducted.
September 2004	 Monthly groundwater treatment system VOC influent and effluent and treatment system air sampling conducted, groundwater level measurements collected, and SVE air flow rates measured in SE and AST Areas. General maintenance activities conducted: prepared new tank of anti-scale; pulled, changed check valve on, and reinstalled RW-8 pump;
	changed wiring on AC-1 to replace AC-2; installed new service kits on larger solenoids on AC-1 dryer; pulled, cleaned, and reinstalled RW-3 pump; drained knockout tank, cleaned T-1 stick; checked flow tube from AST Area and checked SE Area sump pump; installed new effluent pumps; adjusted citric pump from 60/60 to 60/70; installed electrode in effluent sump.

APPENDIX C

SUMMARY OF MAJOR FIELD ACTIVITIES JULY THROUGH DECEMBER 2004

Wayne Reclamation & Recycling

Date	Description of Field Activities and Events (continued)
October 2004	 Monthly groundwater treatment system VOC influent and effluent and treatment system air sampling conducted.
	Site-wide groundwater level measurements collected.
	 Expanded semi-annual groundwater and groundwater treatment system effluent sampling conducted.
	Semi-annual air sampling conducted.
	• General maintenance activities conducted: installed effluent suction pipe on AC-1, rehabilitated AC-2 and RW-8.
	• SE Area sump activities conducted: removed SE Area sump pump; pumped down SE Area SVE sump twice with SE Area wells off and RW-3 and RW-4 on; observed male portion of pitless adapter in SVE sump needs to be replaced.
November 2004	 Monthly groundwater treatment system VOC influent and effluent and treatment system air sampling conducted, groundwater level measurements collected, and SVE air flow rates measured in SE and AST Areas.
	 Groundwater system turned off and line flushed to POTW.
	• General maintenance activities conducted: repairs of RW-6, RW-7, and SVE sump and associated piping; cleaned knockout tank; pumped down the blind sump within the treatment building; rehabilitation of RW-3 and RW-4; cleaned main SVE filter and housing; installed new motor in RW-1 pump; installed new 5SO3 pump end at RW-2; checked Seriplex 'B' line inputs; observed flow meter FT-4 to be out of service and in need of repair.
	• SE Area sump activities conducted: took dimensions on SE Area sump with only RW-3 on, with results showing SVE and AS normal
December 2004	 Monthly groundwater treatment system VOC influent and effluent and treatment system air sampling conducted, groundwater level measurements collected, and SVE air flow rates measured in SE and AST Areas.
	 General maintenance activities conducted: tested flow meter coils, cleaned knockout tank valve, drained knockout tank, checked and thawed out SE Area sump.

APPENDIX D

OF AIR DISPERSION MODELING AND CUMULATIVE CANCER RISK CALCULATIONS

APPENDIX D

SUMMARY OF AIR DISPERSION MODELING AND CUMULATIVE CANCER RISK CALCULATIONS

Wayne Reclamation & Recycling

The following summarizes the air modeling conducted by MWH Americas; Inc. for the Wayne Reclamation & Recycling (WRR) site in Columbia City, Indiana to assess the maximum annual average ground-level concentration (GLC) that could occur at any point outside the perimeter of the WRR site. Descriptions of the model, modeling procedures, and the results are provided below.

AIR DISPERSION MODELING PROCEDURES

The modeling was performed by utilizing the United States Environmental Protection Agency (U.S. EPA) model Industrial Source Complex – Long-Term (ISC-LT) to evaluate the ambient air impact of emissions from the site. Dispersion modeling was conducted on both the air treatment system influent and effluent in order to compare the risks associated with both treated and untreated air.

Meteorological Data

Meteorological data from 1985 was entered into the model for the Columbia City, Indiana region. Model output is highly sensitive to such data, as changes in atmospheric conditions will directly affect the ability of a discharged pollutant to disperse in the surrounding air. Meteorological data such as wind speed, wind direction, urban and rural mixing heights, Pasquill Stability Classifications (rated A to G, with G being the most stable), and ambient air temperature were converted into a binary data package. The package was then loaded into the ISC-LT model. The model then evaluated these conditions with the remaining model input parameters to identify which combinations of these conditions would result in maximum GLC of pollutants.

Emissions Source Data

The following data represents the emissions parameters at the WRR site that were entered into the model:

Stack Height 9.1 meters

Stack Diameter 0.4064 meters

Stack Base Elevation 6.1 meters

Exhaust Temperature 73° C

Gas Exit Velocity 13.08 meters per second

Volumetric Flow Rate 1.7 cubic meters per second

Influent/Effluent Concentrations Sampling events (See Table 14, Progress Rpt. 3.

Current data is provided in Table 13 of this

report.)

Terrain Flat

Dispersion Coefficients Rural

Final Plume Rise On

Stack-tip Downwash On

Receptor Height 0 meters

Modeling Procedure

A grid was established to describe the relationship of the emission source with its surroundings, including the location of the site boundaries and any potential receptors. A cartesian grid was established around the site to determine GLC locations.

HUMAN HEALTH RISK ASSESSMENT

The maximum concentrations determined by the air modeling study were multiplied by unit risk factors (URFs) to obtain the excess carcinogenic risk posed by the emissions through the inhalation route. The URFs used in this study were developed from toxicity values included in U.S. EPA's Integrated Risk Information System (IRIS), U.S. EPA's "Health Assessment Summary Tables" (HEAST, Annual FY-1995), and information provided by the U.S. EPA Environmental Criteria Assessment Office. The URFs assume a chronic exposure to the carcinogenic chemicals for 24 hours a day, 365 days a year, for 70 years. The URFs for the constituents of concern are:

Vinyl chloride - 7.80E-05

1.1-Dichloroethane - 1.63E-08

Trichloroethene - 2.00E-06

Tetrachloroethene - 5.90E-06

The excess cancer risk (ECR) to the maximally exposed individual can be calculated by multiplying the URF by the ambient concentration of the chemical in question. In a residential zone, the maximally-exposed individual is assumed to be continuously exposed to the chemical for 70 years.

The maximum individual excess cancer risk (MICR) to the maximally-exposed individual due to air toxic emissions from the WRR site was calculated by multiplying the appropriate risk factor (URF) by the maximum annual GLC at the maximally-exposed individual:

MICR = URF * GLC

A summary of these calculations using concentrations generated from the model output is provided in Table 14 of Progress Report 3, and current calculations are provided in Table 14 of this progress report. An example model input/output is attached.

On June 24, 1999, air treatment was discontinued; however, monthly air sampling continues to be conducted on the effluent air stream as a means of monitoring potential risk levels associated with the untreated air stream. Effluent air sampling conducted since discontinuation of air treatment indicates the $1x10^6$ action level has not been exceeded, with one minor exception of February 2002. This was due to a slight increase in the vinyl chloride concentration noted in the system effluent air stream during that month's sampling.

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RE DISCCART 100 -800
RE DISCCART 100 -700
RE DISCCART 100 -600
RE DISCCART 100 -500
```

```
RE DISCCART 100 -400
RE DISCCART 100 -300
RE DISCCART 100 -200
RE DISCCART 100 -100
RE DISCCART 100 0
RE DISCCART
RE DISCCART
                         100 100
                         100 200
RE DISCCART 100 300
RE DISCCART
RE DISCCART
                         100 400
                         100 500
RE DISCART
RE DISCART
RE DISCART
RE DISCART
                         100 600
                         100
                                 700
                         100 800
                        100 900
RE DISCCART 100 900
RE DISCCART 200 -800
RE DISCCART 200 -700
RE DISCCART 200 -600
RE DISCCART 200 -400
RE DISCCART 200 -300
RE DISCCART 200 -200
RE DISCCART 200 -100
RE DISCCART 200 -100
RE DISCCART 200 -100
RE DISCCART 200 100
RE DISCCART 200 200
RE DISCCART 200 300
RE DISCCART
RE DISCCART
RE DISCCART
RE DISCCART
RE DISCCART
                         200 400
                         200 500
                         200 600
                         200
                                 700
                         200 800
RE DISCCART 200 800
RE DISCCART 300 -800
RE DISCCART 300 -700
RE DISCCART 300 -600
RE DISCCART 300 -500
RE DISCCART 300 -400
RE DISCCART
RE DISCCART
RE DISCCART
RE DISCCART
RE DISCCART
                         300 -300
                         300 -200
300 -100
                         300 0
                         300 100
 RE DISCCART
RE DISCCART
RE DISCCART
                         300 200
300 300
                         300 400
 RE DISCCART
RE DISCCART
                         300
                                 500
                         300
                                 600
 RE DISCCART
RE DISCCART
RE DISCCART
RE DISCCART
                         300
                                700
                         300 800
                         300 900
                         400
                                 -800
 RE DISCCART
                         400
                                 -700
 RE DISCCART 400 -600
 RE DISCCART 400 -500
 RE DISCCART 400 -600
RE DISCCART 400 -500
 RE DISCCART
                         400 -400
 RE DISCCART
                         400 -300
 RE DISCCART 400 -200
 RE DISCCART 400 -100
 RE DISCCART 400 0
RE DISCCART 400 100
 RE DISCCART 400 200
 RE DISCCART 400 300
RE DISCCART 400 400
 RE DISCCART 400 500
```

```
RE DISCCART 400 600
RE DISCCART 400 700
RE DISCCART 400 800
RE DISCCART 400 900
RE DISCCART 500 -800
RE DISCCART 500 -700
RE DISCCART 500 -600
RE DISCART 500 -500
RE DISCART 500 -400
RE DISCART 500 -300
RE DISCCART 500 -200
RE DISCCART 500 -100
RE DISCCART 500 0
RE DISCCART 500 100
RE DISCCART 500
RE DISCCART 500
                             200
                             300
RE DISCCART 500 400
RE DISCCART 500 500
RE DISCCART 500 600
RE DISCCART 500 700
RE DISCCART 500 800
RE DISCCART 500 900
RE DISCCART 600 -800
RE DISCCART 600 -700
RE DISCCART 600 -600
RE DISCCART 600 -500
RE DISCCART 600 -400
 RE DISCCART 600 -300
RE DISCCART 600 -200
RE DISCCART 600 -100
 RE DISCCART 600 0
 RE DISCCART 600 100
RE DISCCART 600
RE DISCCART 600
                             200
                             300
RE DISCCART 600 400
RE DISCCART 600 500
RE DISCCART 600 600
RE DISCCART 600 700
 RE DISCCART 600 800
RE DISCCART 600 900
RE DISCCART 700 -70
                            -700
 RE DISCCART 700 -600
 RE DISCCART 700 -500
 RE DISCCART 700 -400
 RE DISCCART 700 -300
 RE DISCCART 700 -200
RE DISCCART 700 -100
RE DISCCART 700 0
RE DISCCART 700 100
RE DISCCART 700 200
RE DISCCART 700 300
RE DISCCART 700 400
RE DISCCART 700 500
RE DISCCART 700 600
RE DISCCART 700 700
RE DISCCART 700 800
 RE DISCCART
                     700 900
 RE DISCCART 800 -600
RE DISCCART 800 -500
 RE DISCCART 800 -400
 RE DISCCART 800 -300
 RE DISCCART 800 -200
 RE DISCCART
                     800 -100
 RE DISCCART 800
 RE DISCCART 800 100
 RE DISCCART 800 200
```

```
RE DISCCART 800 300
RE DISCCART 800 400
RE DISCCART 800 500
RE DISCCART 800 600
RE DISCCART 800 700
RE DISCCART 800 800
RE DISCCART 900 -300
RE DISCCART 900 -300
 RE DISCCART 900 -100
 RE DISCCART 900 0
 RE DISCCART 900 100
 RE DISCCART 900 200
 RE DISCCART 900 300
RE DISCCART 900 400
 RE DISCCART 900 500
 RE DISCCART 900 600
 RE FINISHED
 ME STARTING
 ME INPUTFIL METFIL.STR FREE
 ME ANEMHGHT 10.00 METERS
ME SURFDATA 14827 1985
ME UAIRDATA 13840 1985
                                                          SURFNAME
                                                          UAIRNAME
 ME STARDATA ANNUAL
 ME STARDATA ANNUAL
ME AVESPEED 1.54 3.09 3.95 5.14 8.23 10.80
ME AVETEMPS ANNUAL 280 280 280 280 280 280
ME AVEMIXHT ANNUAL A 440 440 440 440 440 440
ME AVEMIXHT ANNUAL B 440 440 440 440 440 440
ME AVEMIXHT ANNUAL C 440 440 440 440 440 440
ME AVEMIXHT ANNUAL D 440 440 440 440 440 440
ME AVEMIXHT ANNUAL E 440 440 440 440 440 440
ME AVEMIXHT ANNUAL F 440 440 440 440 440 440
ME EVEMIXHT ANNUAL F 440 440 440 440 440
  ME FINISHED
  OU STARTING
  OU RECTABLE SRCGRP
  OU FINISHED
  *** SETUP Finishes Successfully ***
************************
```

```
*** Fort Wayne Reclamation Site, 30 ft stack
 *** ISCLT3 - VERSION 95250 ***
 *** MODELING OPTIONS USED: CONC
                                              RURAL FLAT
                                                                        DFAULT
                                                                 MODEL SETUP OPTIONS SUMMARY
**Model Is Setup For Calculation of Average CONCentration Values.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations
**Model Uses NO plume DEPLETION.
**Model Uses RURAL Dispersion.
**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
              2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Default Wind Profile Exponents.
5. Default Vertical Potential Temperature Gradients.

    "Upper Bound" Values For Supersquat Buildings.
    No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.
**Model Assumes No FLAGPULE Receptor Heights.
                           1 STAR Average(s) for the Following Months: 0
Seasons/Quarters: 0
and Annual: 1
                                                                                                    0
**Model Calculates
                                                                                        0
**pata File Includes 1 STAR Summaries for the Following Months:
                                                                                     0
                                                                                                     О
                                                            Seasons/Quarters:
                                                                                         0
                                                                    and Annual: '1
**This Run Includes:
                               1 Source(s);
                                                      1 Source Group(s); and
                                                                                       386 Recepto
**The Model Assumes A Pollutant Type of: OTHER
**Model Set To Continue RUNning After the Setup Testing.
**Output Options Selected:
           Model Outputs Tables of Long Term Values by Receptor (RECTABLE Keyword
                      Anem. Hgt. (m) = 10.00;
Emission Units = (GRAMS/SEC)
**Misc. Inputs:
                                                             Decay Coef. =
                                                                                    .0000
                                                                                                     \mathbf{E}
                      Output Units
                                        = (MICROGRAMS/CUBIC-METER)
```

**Output Pri

**Input Runstream File: INPUT.FIL

**Error Message File: ERRORS.OUT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	E
								_ '
1	0	.70000E-02	.0	.0	.0	9.14	293.15	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDS DEFINING SOURCE GROUPS

GROUP ID SOURCE IDS

ALL 1

*** MODELING OPTIONS USED: CONC RURAL FLAT

DFAULT

					ETE CARTESIAN RECEPT	
				(X-COOR	D, Y-COORD, ZELEV, Z	FLAG)
					(METERS)	
,	-241.0.	116.0,	0	0).	/ 220.0	05
>	-239.0,	-45.0,	.0, .0,	.0); .0);	(-239.0, (-239.0,	-85. -5.
- }	-239.0,	35.0,	.0,	.0);	(-239.0,	75.
}	-204.0,	-86.0,	.0,	.0);	(-198.0,	114
}	-169.0,	-86.0,	.0,	.0);	(-155.0,	112.
)	-134.0,	-86.0,	.0,	.0);	(-112.0,	110.
)	-89.0,	-91.0,	.0,	.0);	(-70.0,	181.
)	-69.0.	144.0,	.0,	.0);	(-68.0,	107.
7	-45.0,	-95.0,	.0,	.0);	(-27.0,	181.
7	-1.0,	-99.0,	.0,	.0);	16.0,	181.
ì	43.0,	-103.0,	.0,	.0);	59.0,	181.
- }	70.0,	-111.0,	.0,	.0);	97.0,	-119 -
ì	102.0,	183.0,	.0,	.0);	(102.0,	231.
ì	123.0,	-133.0,	.0,	.0);	(142.0,	231 .
í	149.0,	-146.0,	.0,	.0);	(182.0,	231 .
ì	184.0,	-145.0,	.0,	.0);	(202.0,	-137 -
ì	209.0,	-116.0,	.0,	.0);	(215.0,	-69 •
i	221.0,	_ 21 0	.0,	.0);	(222.0,	231 -
į	227.0,	7.0.	.0,	.0);	(223.0,	45 -
(242.0,		.0,	.0);	(251.0,	136 -
(260.0,	181.0,	.0,	.0);	(262.0,	207 -
(264.0,	232.0,	.0,	.0);	(-900.0,	-800 -
(-900.0,	-700.0,	.0,	.0);	(-900.0,	-600 -
(-900.0,	-500.0,	.0,	.0);	(-900.0,	-400 -
(-900.0,	-300.0,	.0,	.0);	(-900-0,	-200 -
Ţ	-900.0,	-100.0,	.0,	.0);	(-900.0,	•
(-900.0,	100.0, 300.0,	.0,	.0);	(-900.0,	200 -
(-900.0,	300.0,	.0,	.0);	(-900.0,	400 -
- {	-900.0	500.0, 700.0,	.0.	.0):	(-900.0,	600 -
}	-900.0, -900.0,	900.0,	.0,	.0);	(-900.0,	800 •
}	-800.0,	-700.0,	.0,	.0);	(-800.0,	-800 • -600 •
}	-800.0,	~500.0,	.0,	.0); .0);	(-800.0,	-400 •
}	-800.0,	-300.0,	.0,	:0};	(-800.0, (-800.0,	-200
}	-800.0,	~100.0,	.0,	.0);	(-800.0,	-200 0
}	-800.0,	100.0,	.0,	.0);	(-800.0,	200 .
- }	-800.0,	300.0,	.0,	.0);	(-800.0,	400
}	-800.0,	500.0,	.0,	.0);	(-800.0,	600
7	-800.0,	700.0,	.0,	.0);	(-800.0,	800
ì	-800.0,	900.0,	.ŏ,	.0);	(-700.0,	-800
ì	-700.0,	-700.0.	.0,	.ŏ;;	(-700.0,	-600
i	-700.0,	~500.0,	.0,	.0);	{ -700.0,	-400
i	-700.0,	-300.0,	.0,	.0);	(-700.0,	-200
ì	-700.0,	-100.0,	.0,	.0);	(-700.0,	
i	-700.0,	100.0,	. Õ,	.0);	(-700.0,	200
•	•	- •		, ,	, , , , , , , , , , , , , , , , , , , ,	

*** MODELING OPTIONS USED: CONC RURAL FLAT

DFAULT

				*** DISCRETE CARTESIAN RECEPTORS **		
				(X-COORD,	Y-COORD, ZELEV, (METERS)	ZFLAG)
(-700.0,	300.0,	.0,	.0);	(-700.0,	400-
Ċ	-700.0,	500.0,	.0,	.0);	(-700.0,	600.
i	-700.0,	700.0.	.0,	.0);	(-700.0,	800.
ì	-700.0,	900.0,	.0,	.0);	600.0,	-800.
ì	-600.0,	-700.0,	.0,	.0);	/ -600.0	-600 -
ì	-600.0,	-500.0,	.0,	.0);	(-600.0,	-400.
ì	-600.0,	-300.0,	.0,	.0);		-200.
ì	-600.0,	-100.0,	.0.	.0);		
ì	-600.0,	100.0.	.0,	.0);	-600.0,	200 - 400 -
ì	-600.0,	100.0,	.0,	.0);	(-600.0,	400-
ì	-600.0,	500.0,	.0,	.0);	(-600.0,	400 -
ì	-600 0	300 0	.0,	.0);	(-600.0, (-600.0,	500-
ì	-600.0,	600.0	.0,	.0);	(-600.0,	700 •
- }	-600.0,	800.0	.0,	.0);	(-600.0, (-600.0,	900 -
- }	-500.0,	-800.0	.0,	.0);	-500.0	-700.
- }	-500.0,	-600.0	•	.ŏ;;	(-500.0, (-500.0,	-500 •
- }	-500.0,	-400.0	.0,	.0);	7 -500.0	-300 -
ì	-500.0,	600.0, 800.0, -800.0, -600.0, -400.0,	.0,	.0);	(-500.0, (-500.0,	-100
ì	-500.0,	.0.	.0,	.0);	(-500.0,	100.
ì	-500.0,	.0, 200.0,	.0,	.0);	-500.0,	100.
ì	-500.0,	400 O	.0,	.0);	-500.0.	300 •
ì	-500.0,	200.0	.0,	.0);	(-500.0, (-500.0,	100.
ì	-500.0,	200.0, 400.0,	.0.	.0);	-500.0.	300 -
ì	-500.0.	400.0.	.0,	.0);	(-500.0, (-500.0,	500 •
ì	-500.0,	600.0, 800.0, -800.0, -600.0,	.0,	.0);	£500.0.	700 -
ì	-500.0,	800.0	.0,	.0);	ì -500.0.	700 - 900 -
ì	-400.0,	-800.0.	.0,	.0);	7 -400.0.	-700 -
ì	-400.0,	-600.0	.0,	.0);	(-400.0, (-400.0,	-500 -
ì	-400.0,	-400.0,	.0,	.0);	(-400.0, (-400.0, { -400.0,	-300 •
ì	~400.0,	-200.0,	.0,	.0);	(-400.0, (-400.0,	-100 -
i	-400.0,	.0.	.0,	.0);	-400.0,	100 -
ì	-400.0,	200.0,	.0,	.O);	(-400.0, (-400.0,	300 -
i	-400.0,	400.0.	.0,	.0);	/ ~4 00.0.	500 -
į	-400.0,	600.0, 800.0.	.0,	.0);	(-400.0, (-400.0,	700 -
Ì	~400.0,		.0,	.0);	(-400.0,	900 -
i	-300.0,	-800.0,	.0,	.0);	-300.0,	-700 .
i	-300.0,	-600.0,	.0,	.0);	(-300.0,	-50O·
i	-300.0,	-400.0,	.0,	.0);	(-300.0,	~30O ·
i	-300.0,	-200.0,	٠٥,	.0);	(-300.0,	~100 .
i	-300.0,	.0,	.0,	.0);	(-300.0,	100
į	~300.0,	200.0,	.0,	.0);	(-300.0,	30 O
į	-300.0,	400.0,	٠٥,	.0);	(-300.0,	50 O
ĺ	-300.0,	600.0,	.0,	.0);	(-300.0.	70 O
į.	-300.0,	800.0,	.0,	.0);	(-300.0,	90 <i>O</i>
į	-200.0,	-800.0,	.0,	.0);	(-200.0,	-70 O

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

			ETE CARTESIAN RECEPT D, Y-COORD, ZELEV, 2 (METERS)	ORD, ZELEV, ZFLAG)		
(-200.0,	-600.0,	.0,	.0);	(-200.0,	-500.
Ċ	-200.0,	-400.0,	.0,	.0);	(-200.0,	-300.
Ò	-200.0,	-200.0,	.0,	.0);	(-200.0,	-100.
Ċ	-200.0,	.0,	.0,	.0);	(-200.0,	100.
Ċ	-200.0,	200.0,	.0,	.0);	(-200.0,	300.
i	-200.0,	400.0,	.0,	.0);	(-200.0,	500.
ì	-200.0,	600.0,	.0,	.0);	(-200.0,	700.
ì	-200.0,	800.0,	.0,	.0);	(-200.0,	900•
i	-100.0,	-800.0,	.0,	.0);	{ -100.0,	-700.
Ċ	-100.0,	-600.0,	.0,	.0);	(-100.0,	-500.
Ò	-100.0,	-400.0,	.0,	.0);	(-100.0,	-300.
i	-100.0,	-200.0,	.0,	.0);	(-100.0,	-100
ì	-100.0,	.0,	.0,	.0);	(-100.0,	100.
i	-100.0,	200.0,	.0,	.0);	(-100.0,	300•
ì	-100.0,	400.0,	.0,	.0);	(-100.0,	50O <i>•</i>
i	-100.0,	600.0, 800.0,	.0,	.0);	(-100.0,	700.
į	-100.0,		.0,	.0);	(-100.0,	900•
ĺ.	.0,	-800.0,	.0,	.0);	(.0,	-700 -
į (.0,	-600.0,	.0,	.0);	(.0,	-500 -
- (.0,	-400.0,	.0,	.0);	(.0,	-300 •
(.0,	-200.0,	.0,	.0);	(.0,	-100 -
(.0,	-200.0,	.0,	.0);	(.0,	-100 •
(.0,	.0,	.0,	.0);	(.0,	100 -
(.0,	200.0,	.0,	.0);	(.0,	300 -
(.0,	400.0,	.0.	.0);	,0,	500 -
(.0,	600.0,	.0,	.0);	(.0,	700 -
(.0,	800.0,	.0,	.0);	(.0,	900 -
(100.0,	-800.0,	.0,	.0);	(100.0,	-700 -
- (100.0,	-600.0,	.0,	.0);	(100.0,	-500 -
(100.0,	-400.0,	.0,	.0);	(100.0,	-300 -
(100.0,	-200.0,	.0,	.0);	(100.0,	-100 • 100 •
(100.0,	.0,	.0,	.0);	(100.0,	300 -
- (100.0,	200.0,	٠٥,	.0);	(100.0,	500 -
- 9	100.0,	400.0,	.0,	.0);	(100.0, (100.0,	700 -
- (100.0,	600.0,	.0,	.0);	(100.0,	900 -
- (100.0,	800.0,	.0,	.0);	(100.0,	-700 •
(200.0,	-800.0,	.0,	.0);	(200.0,	-500 -
Ş	200.0,	-600.0,	.0,	·0);	(200.0, (200.0,	-300
- (200.0,	-400.0,	.0,	.0);	(200.0,	-100
(200.0,	-200.0,	.0,	.0);	(200.0,	100.
Ş	200.0, 200.0,	.0, 200.0,	.0,	.0);	(200.0,	300
- 9	200.0,	400.0,	.0, .0,	.0);	(200.0,	500
Ş		600.0,			(200.0,	700
- !	200.0,	800.0,	.0,	.0); .0);	(200.0,	900
(200.0,	000.0,	.0,	. U) ;	ι 200.0,	,,,,

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

			*** DISCRI (X-COORI	ETE CARTESIAN RECEI D, Y-COORD, ZELEV, (METERS)	PTORS ** ZFLAG)
(300.0, 300.0, 300.0, 300.0, 300.0, 300.0, 400.0, 400.0, 400.0, 400.0, 400.0, 400.0, 500.0, 500.0, 500.0, 500.0, 600.0, 600.0, 600.0, 600.0, 600.0, 600.0, 600.0, 600.0, 600.0, 700.0, 700.0, 700.0, 700.0, 600.0,	-800.0, -600.0, -400.0, -200.0, 400.0, 600.0, -600.0, -600.0, -600.0, -600.0, -400.0, -200.0, -400.0, -200.0, -400.0, -200.0, -400.0, -200.0, -400.0, -200.0, -200.0, -200.0, -300.0, -400.0, -200.0, -400.0, -200.0, -200.0, -300.0, -400.0, -200.0, -300.0, -400.0, -200.0, -300.0, -400.0, -200.0, -300.0, -400.0, -200.0, -300.0, -300.0, -400.0, -200.0, -300.		*** DISCRI (X-COORI .0); .0); .0); .0); .0); .0); .0); .0);	D, Y-COORD, ZELEV,	TORS ** ZFLAG) -700500100. 300100. 300700500500100. 300700500100. 300700500100. 300700100
(700.0, (700.0, (700.0, (700.0, (700.0, (700.0,	-300.0, -300.0, -100.0, 300.0, 500.0, 700.0,	.0,	.0);	(700.0, (700.0, (700.0, (700.0, (700.0, (700.0,	-200 200 400 600 800

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

					Y-COOR	SIAN RECEP D, ZELEV, ERS)	
(700.0,	900.0,	.0,	.0);	(800.0,	-600.
Ò	800.0,	~500.0,	.0,	.0);	i	800.0.	-400.
Ċ	800.0,	-300.0,	.0,	.0);	i	800.0.	-200:
į	800.0,	-100.0,	.0,	.05;	i	800.0,	
ì	800.0,	100.0,	.0,	.0);	ì	800.0,	200.
į	800.0,	300.0,	.0,	.0);	ì	800.0.	400.
ì	800.0,	500.0	.0,	.0);	ì	800.0.	600.
i	800.0	700.0,	.0,	.0):	ì	800.0.	800.
Ì	900.0,	-300.0,	.0,	.0);	ì	900.0,	-200.
(900.0,	-100.0,	.0,	.0):	ì	900.0,	
į	900.0,	100.0,	.0,	.0);	ì	900.0,	200.
i	900.0,	300.0,	.0,	.0);	ì	900.0.	400.
į	900.0,	500.0,	.0,	.0);	ì	900.0	600.

*** MODELING OPTIONS USED: CONC RURAL FLAT

DFAULT

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY LESS THAN 1.0 METER OR 3*ZLB IN DISTANCE, OR WITHIN 0

SOURCE -- RECEPTOR LOCATION -ID XR (METERS) YR (METERS)

.0

1

.0

```
*** Fort Wayne Reclamation Site, 30 ft stack
*** ISCLT3 - VERSION 95250 ***
*** MODELING OPTIONS USED: CONC
                                    RURAL FLAT
                                                          DFAULT
                                        *** AVERAGE SPEED FOR EACH WIND SPEED CA
                                                             (METERS/SEC)
                                                     3.09,
                                             1.54,
                                                              3.95,
                                                                               8.2
                                                   *** WIND PROFILE EXPONENTS **
              STABILITY
                                                       WIND SPEED CATEGORY
              CATEGORY
                              .70000E-01
                                             .70000E-01
                                                             .70000E-01
                                                                             .7000
                 A
                  В
                             .70000E-01
                                             .70000E-01
                                                             .70000E-01
                                                                             .7000
                                                             .10000E+00
                                                                             .1000
                  C
                             .10000E+00
                                             .10000E+00
                                                                             .1500
                             .15000E+00
                  D
                                             .15000E+00
                                                             .15000E+00
                  E
                             .35000E+00
                                             .35000E+00
                                                             .35000E+00
                                                                             .3500
                              .55000E+00
                                             .55000E+00
                                                             .55000E+00
                                                                             .5500
                                          *** VERTICAL POTENTIAL TEMPERATURE GRA
                                                      (DEGREES KELVIN PER METER)
              STABILITY
                                                       WIND SPEED CATEGORY
              CATEGORY
                                                2
                                ٦
                                                                             .0000
                             .00000E+00
                                             .00000E+00
                                                             .00000E+00
                  Α
                                                                             .0000
                  В
                              .00000E+00
                                             .00000E+00
                                                             .00000E+00
                  C
                              .00000E+00
                                             .00000E+00
                                                             .00000E+00
                                                                             .0000
                  D
                             .00000E+00
                                                             .00000E+00
                                                                             .0000
                                             .00000E+00
                                                                             .200 O
                  E
                              .20000E-01
                                                             .20000E-01
                                             .20000E-01
                                                                             .350 Q
                  F
                             .35000E-01
                                             .35000E-01
                                                             .35000E-01
                                        *** AVERAGE AMBIENT AIR TEMPERATURE (KEI
```

STABILITY

280.0000

CATEGORY A

ANNUAL

STABILITY

280.0000

CATEGORY B

STABILITY

280.0000

CATEGORY C

STABILITY

280.0000

CATEGORY D

C

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** AVERAGE MIXING LAYER HEIGHT (METERS) **

					ANNUAL	
			WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED
			CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
STABILITY	CATEGORY	Α	440.0000	440.0000	440.0000	440.0000
STABILITY	CATEGORY	В	440.0000	440.0000	440.0000	440.0000
STABILITY	CATEGORY	С	440.0000	440.0000	440.0000	440.0000
STABILITY	CATEGORY	D	440.0000	440.0000	440.0000	440.0000
STABILITY	CATEGORY	Ē	440.0000	440.0000	440.0000	440.0000
STABILITY	CATEGORY	F	440.0000	440.0000	440.0000	440.0000

*** ISCLT3 - VERSION 95250 *** *** Fort Wayne Reclamation Site, 30 ft stack

DFAULT *** MODELING OPTIONS USED: CONC RURAL FLAT

*** FREQUENCY OF OCCURRENCE OF WIND SPEED, DIRECTION AND STABILITY *

FILE: METFIL.STR

FORMAT: FREE

SURFACE STATION NO.: 14827
NAME: SURFNAME
YEAR: 1985

UPPER AIR STATION NO. NAME

YEAR

A ATAIVIA T .	STABILITY	CAMPCODY	n.
ANNUAL:	STABILITY	CATEGORY	A

DIDECTION ON	WIND SPEED CATEGORY 1	WIND SPEED CATEGORY 2	WIND SPEED CATEGORY 3	WIND SPEED CATEGORY 4	WIND SPEED CATEGORY 5 (8.230 M/S)	W C
DIRECTION	(1.540 M/S)	(3.090 M/S)	(3.950 M/S)	(5.140 M/S)	(8.230 M/S)	f T
(DEGREES)	.00000000	.00000000	.00000000	.00000000	.00000000	_
22.500	.00000000	.00000000	.00000000	.00000000	.00000000	
45.000	.00000000	.00000000	.00000000	.00000000	.00000000	
67.500	.00000000	.00000000	.00000000	.00000000	.00000000	
90.000	.00000000	.00000000	.00000000	.00000000	.00000000	
112.500	.00000000	.00000000	.00000000	.00000000	.00000000	
135.000	.00000000	.00000000	.00000000	.00000000	.00000000	
157.500	.00000000	.00000000	.00000000	.00000000	.00000000	
180.000	.00000000	.00000000	.00000000	.00000000	.00000000	
202.500	.00000000	.00000000	.00000000	.00000000	.00000000	
225.000	.00000000	.00000000	.00000000	.00000000	.00000000	
247.500	.00000000	.00000000	.00000000	.00000000	.00000000	
270.000	.00000000	.00000000	.00000000	.00000000	.00000000	
292.500	.00000000	.00000000	.00000000	.00000000	.00000000	
315.000	.00000000	.00000000	.00000000	.00000000	.00000000	
337.500	.00000000	.00000000	.00000000	.00000000	.00000000	
					. *	

ANNUAL: STABILITY CATEGORY B

	WIND SPEED CATEGORY 1	WIND SPEED CATEGORY 2	WIND SPEED CATEGORY 3	WIND SPEED CATEGORY 4	WIND SPEED CATEGORY 5	Č
DIRECTION (DEGREES)	(1.540 M/S)	(3.090 M/S)	(3.950 M/S)	(5.140 M/S)	(8.230 M/S)	(]
.000	.00000000	.00000000	.00000000	.00000000	.00000000	
22.500	.00000000	.00000000	.00000000	.00000000	.00000000	
45.000	.00000000	.00000000	.00000000	.00000000	.00000000	
67.500	.00000000	.00000000	.00000000	.00000000	.00000000	
90.000	.00000000	.00000000	.00000000	.00000000	.00000000	
112.500	.00000000	.00000000	.00000000	.00000000	.00000000	
135.000	.00000000	.00000000	.00000000	.00000000	.00000000	
157.500	.00000000	.00000000	.00000000	.00000000	.00000000	
180.000	.00000000	.00000000	.00000000	.00000000	.00000000	
202.500	.00000000	.00000000	.00000000	.00000000	.00000000	
225.000	.00000000	.00000000	.00000000	.00000000	.00000000	
247.500	.00000000	.00000000	.00000000	.00000000	.00000000	
270.000	.00000000	.00000000	.00000000	.00000000	.00000000	
292.500	.00000000	.00000000	.00000000	.00000000	.00000000	
315.000	.00000000	.00000000	.00000000	.00000000	.00000000	
337.500	.00000000	.00000000	.00000000	.00000000	.00000000	

*** ISCLT3 - VERSION 95250 *** *** Fort Wayne Reclamation Site, 30 ft stack

RURAL FLAT *** MODELING OPTIONS USED: CONC DFAULT

*** FREQUENCY OF OCCURRENCE OF WIND SPEED, DIRECTION AND STABILITY *

FILE: METFIL.STR

FORMAT: FREE

SURFACE STATION NO.: 14827
NAME: SURFNAME

UPPER AIR STATION NO. NAME YEAR

YEAR: 1985

ANNUAL: STABILITY CATEGORY C

DIRECTION	WIND SPEED CATEGORY 1 (1.540 M/S)	WIND SPEED CATEGORY 2 (3.090 M/S)	WIND SPEED CATEGORY 3 (3.950 M/S)	WIND SPEED CATEGORY 4 (5.140 M/S)	WIND SPEED CATEGORY 5 (8.230 M/S)	W C (1
	(1.540 M/S)	(3.030 M/S)	(3.350 M/S)	(3.140 M/S)	(0.230 M/3/	(±
(DEGREES)	.00000000	.00000000	,00000000	.00000000	.00000000	_
• •						
22.500	.00000000	.00000000	.00000000	.00000000	.00000000	
45.000	.00000000	.00000000	.00000000	.00000000	.00000000	
67.500	.00000000	.00000000	.00000000	.00000000	.00000000	
90.000	.00000000	.00000000	.00000000	.00000000	.00000000	
112.500	.00000000	.00000000	.00000000	.00000000	.00000000	
135.000	.00000000	.00000000	.00000000	.00000000	.00000000	
157.500	.00000000	.00000000	.00000000	.00000000	.00000000	
180.000	.00000000	.00000000	.00000000	.00000000	.00000000	
202.500	.00000000	.00000000	.00000000	.00000000	.00000000	
225.000	.00000000	.00000000	.00000000	.00000000	.00000000	
247.500	.00000000	.00000000	.00000000	.00000000	.00000000	
270.000	.00000000	.00000000	.00000000	.00000000	.00000000	
292.500	.00000000	.00000000	.00000000	.00000000	.00000000	
315.000	.00000000	.00000000	.00000000	.00000000	.00000000	
337.500	.00000000	.00000000	.00000000	.00000000	.00000000	

ANNUAL: STABILITY CATEGORY D

		WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	WIND SPEED	1
		CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	-
DIR	ECTION	(1.540 M/S)	(3.090 M/S)	(3.950 M/S)	(5.140 M/S)	(8.230 M/S)	(
(DE	GREES)	`	·i	`			
•	.000	.00067300	.00807100	.01059300	.00588500	.00000000	
	22.500	.00056000	.00739800	.00420300	.00218600	.00000000	
	45.000	.00056000	.00504400	.00689400	.00353100	.00000000	
	67.500	.00056000	.00739800	.01193800	.00655700	.00067300	
	90.000	.00201800	.01412300	.02135300	.01227400	.00100900	
	112.500	.00168100	.00739800	.00723000	.00252200	.00000000	
	135.000	.00302600	.00874300	.00588500	.00151300	.00000000	
	157.500	.00302600	.01008800	.00674200	.00151300	.00000000	
	180.000	.00403500	.01345100	.01462800	.00689400	.00050400	
	202.500	.00269000	.01244200	.01368600	.00790200	.00084100	
:	225.000	.00336300	.01513200	.02377400	.01731800	.00302600	
	247.500	.00201800	.01042400	.01704900	.01395500	.00336300	
	270.000	.00168100	.01412300	.02209300	.02471600	.00605300	
	292.500	.00067300	.00773400	.01025600	.00790200	.00067300	
	315.000	.00067300	.00739800	.01025600	.00823900	.00067300	
	337.500	.00067300	.00739800	.00958400	.00622100	.00033600	

RURAL FLAT *** MODELING OPTIONS USED: CONC

DFAULT

*** FREQUENCY OF OCCURRENCE OF WIND SPEED, DIRECTION AND STABILITY *

FILE: METFIL.STR

FORMAT: FREE

SURFACE STATION NO.: 14827
NAME: SURFNAME

UPPER AIR STATION NO. NAME YEAR

YEAR: 1985

ANNUAL: STABILITY CATEGORY E

	WIND SPEED	W				
	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5	C
DIRECTION	(1.540 M/S)	(3.090 M/S)	(3.950 M/S)	(5.140 M/S)	(8.230 M/S)	(1
(DEGREES)						-
.000	.00029200	.00350200	.00459700	.00255400	.00000000	
22.500	.00024300	.00321000	.00182400	.00094900	.00000000	
45.000	.00024300	.00218900	.00299200	.00153200	.00000000	
67.500	.00024300	.00321000	.00518000	.00284600	.00029200	
90.000	.00087600	.00612900	.00926700	.00532600	.00043800	
112.500	.00073000	.00321000	.00313700	.00109400	.00000000	
135.000	.00131300	.00379400	.00255400	.00065700	.00000000	
157.500	.00131300	.00437800	.00292600	.00065700	.00000000	
180.000	.00175100	.00583700	.00634800	.00299200	.00021900	
202.500	.00116700	.00539900	.00593900	.00342900	.00036500	
225.000	.00145900	.00656700	.01031700	.00751500	.00131300	
247.500	.00087600	.00452400	.00739900	.00605600	.00145900	
270.000	.00073000	.00612900	.00958800	.01072600	.00262700	
292.500	.00029200	.00335600	.00445100	.00342900	.00029200	
315.000	.00029200	.00321000	.00445100	.00357500	.00029200	
337.500	.00029200	.00321000	.00415900	.00270000	.00014600	

ANNUAL: STABILITY CATEGORY F

	WIND SPEED CATEGORY 1	WIND SPEED CATEGORY 2	WIND SPEED CATEGORY 3	WIND SPEED CATEGORY 4	WIND SPEED CATEGORY 5	V
DIRECTION	(1.540 M/S)	(3.090 M/S)	(3.950 M/S)	(5.140 M/S)	(8.230 M/S)	(-
(DEGREES)			~			-
.000	.00030500	.00365500	.00479700	.00266500	.00000000	
22.500	.00025400	.00335000	.00190300	.00099000	.00000000	
45.000	.00025400	.00228400	.00312200	.00159900	.00000000	
67.500	.00025400	.00335000	.00540600	.00296900	.00030500	
90.000	.00091400	.00639600	.00966900	.00555800	.00045700	
112.500	.00076100	.00335000	.00327400	.00114200	.00000000	
135.000	.00137000	.00395900	.00266500	.00068500	.00000000	
157.500	.00137000	.00456800	.00305300	.00068500	.00000000	
180.000	.00182700	.00609100	.00662400	.00312200	.00022800	
202.500	.00121800	.00563400	.00619800	.00357800	.00038100	
225.000	.00152300	.00685200	.01076600	.00784200	.00137000	
247.500	.00091400	.00472000	.00772000	.00631900	.00152300	
270.000	.00076100	.00639600	.01000400	.01119200	.00274100	
292.500	.00030500	.00350200	.00464400	.00357800	.00030500	
315.000	.00030500	.00335000	.00464400	.00373100	.00030500	
337.500	.00030500	.00335000	.00434000	.00281700	.00015200	

SUM OF FREQUENCIES, FTOTAL = .99381

*** MODELING OPTIONS USED: CONC RURAL FLAT

DFAULT

*** THE ANNUAL AVERAGE CONCENTRATION VALUES FOR INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POI

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
-241.00	116.00	.009316	-239.00
-239.00	~45.00	.019247	-239.00
-239.00	35.00	.018958	-239.00
-204.00	-86.00	.013180	-198.00
-169.00	-86.00	.010928	-155.00
-134.00	-86.00	.007475	-112.00
-89.00	-91.00	.003213	-70.00
-69.00	144.00	.006313	-68.00
-45.00	~95.00	.001210	-27.00
-1.00	-99.00	.001800	16.00
43.00	-103.00	.003187	59.00
70.00	-111.00	.005509	97.00
102.00	183.00	.020349	102.00
123.00	-133.00	.011355	142.00
149.00	-146.00	.012918	102.00
184.00	-145.00	.013191	202.00
209.00	-116.00	.013247	215.00
221.00	-31.00	.025667	222.00
227.00	7.00	.032258	223.00
242.00 260.00	91.00 181.00	.023422	251.00 262.00
264.00	232.00	.025157 .025917	-900.00
-900.00	-700.00	.002927	-900.00
-900.00	-500.00	.002927	-900.00
-900.00	-300.00	.005665	-900.00
-900.00	-100.00	.008457	-900.00
-900.00	100.00	.008129	-900.00
-900.00	300.00	.004771	-900.00
-900.00	500.00	.003555	-900.00
-900.00	700.00	.003315	-900.00
-900.00	900.00	.003028	-800.00
-800.00	-700.00	.002913	-800.00
-800.00	-500.00	.004093	-800.00
-800.00	-300.00	.005869	-800.00
-800.00	-100.00	.009370	-800.00
-800.00	100.00	.008947	-800.00
-800.00	300.00	.004738	-800.00
-800.00	500.00	.003946	-800.00
-800.00	700.00	.003616	-800.00
-800.00	900.00	.003270	-700.00

*** MODELING OPTIONS USED: CONC RURAL FLAT

DFAULT

*** THE ANNUAL AVERAGE CONCENTRATION VALUES FOR INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POI

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
-700.00	-700.00	.002837	-700.00
-700.00	-500.00	.002837	-700.00
-700.00	-300.00	.006057	-700.00
-700.00	-100.00	.010420	-700.00
-700.00	100.00	.009859	-700.00
-700.00	300.00	.004724	-700.00
-700.00	500.00	.004397	-700.00
-700.00	700.00	.003949	-700.00
-700.00	900.00	.003527	-600.00
-600.00	-700.00	.003036	-600.00
-600.00	-500.00	.004188	-600.00
-600.00	-300.00	.006458	-600.00
-600.00	-100.00	.011580	-600.00
-600.00	100.00	.010808	-600.00
-600.00	300.00	.005380	-600.00
-600.00	500.00	.004911	-600.00
-600.00	300.00	.005380	-600.00
-600.00	600.00	.004621	-600.00
-600.00	800.00	.004060	-600.00
-500.00	-800.00	.002900	-500.00
-500.00	-600.00	.003601	-500.00
-500.00	-400.00	.005218	-500.00
-500.00	-200.00	.008743	-500.00
-500.00	.00	.017213	-500.00
-500.00 -500.00	200.00 400.00	.006715	-500.00 -500.00
-500.00	200.00	.005846 .006715	-500.00
-500.00	200.00	.006715	-500.00
-500.00	400.00	.005/15	-500.00
-500.00	600.00	.005127	-500.00
-500.00	800.00	.004408	-500.00
-400.00	-800.00	.003025	-400.00
-400.00	-600.00	.003835	-400.00
-400.00	-400.00	.004952	-400.00
-400.00	-200.00	.009255	-400.00
-400.00	.00	.020561	-400.00
-400.00	200.00	.007474	-400.00
-400.00	400.00	.006624	-400.00
-400.00	600.00	.005677	-400.00
-400.00	800.00	.004765	-400.00

*** MODELING OPTIONS USED: CONC RURAL FLAT

DFAULT

*** THE ANNUAL AVERAGE CONCENTRATION VALUES FOR INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POI

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
-300.00	-800.00	.003316	-300.00
-300.00	-600.00	.004027	-300.00
-300.00	-400.00	.005368	-300.00
-300.00	-200.00	.009348	-300.00
-300.00	.00	.024357	-300.00
-300.00	200.00	.008639	-300.00
-300.00	400.00	.007534	-300.00
-300.00	600.00	.006251	-300.00
-300.00	800.00	.005392	-300.00
-200.00	-800.00	.004059	-200.00
-200.00	-600.00	.004703	-200,00
-200.00	-400.00	.005696	-200.00
-200.00	-200.00	.007920	-200.00
-200.00	.00	.023386	-200.00
-200.00	200.00	.009527	-200.00
-200.00	400.00	.008564	-200.00
-200.00	600.00	.007572	-200.00
-200.00	800.00	.006679	-200.00
-100.00	-800.00	.004824	-100.00
-100.00	-600.00	.006024	-100.00
-100.00	400.00	.007492	-100.00
-100.00	-200.00	.007056	-100.00
-100.00	.00	.004122	-100.00
-100.00	200.00	.009661	-100.00
-100.00	400.00	.011791	-100.00
-100.00	600.00	.009842	-100.00
-100.00	800.00	.008017	-100.00
.00	-800.00	.005559	.00
.00	-600.00	.007343	.00
.00	-400.00	.010323	.00
.00	-200.00	.011686	.00
.00	-200.00	.011686	.00
.00	.00	.000000	.00
.00	200.00 400.00	.017497	.00
	600.00	.016600	.00
.00	800.00	.012147 .009317	.00
100.00	-800.00	.005428	100.00
100.00	-600.00	.007086	100.00
100.00	-400.00	.007086	
100.00	-400.00	.009/33	100.00

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE ANNUAL AVERAGE CONCENTRATION VALUES FOR INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POI

		^^ CONC OF OTHER	IN (MICROGRAMS/CUBIC
X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
100.00	-200.00	.011923	100.00
100.00	.00	.007042	100.00
100.00	200.00	.019802	100.00
100.00	400.00	.015498	100.00
100.00	600.00	.011588	100.00
100.00	800.00	.009006	100.00
200.00	-800.00	.005219	200.00
200.00	-600.00	.006699	200.00
200.00	-400.00	.009144	200.00
200.00	-200.00	.013223	200.00
200.00	.00	.031916	200.00
200.00	200.00	.030070	200.00
200.00	400,00	.015798	200.00
200.00	600.00	.010848	200.00
200.00	800.00	.008577	200.00
300.00	-800.00	.004950	300.00
300.00	-600.00	.006397	300.00
300.00	-400.00	.008718	300.00
300.00	-200.00	.011626	300.00
300.00	.00	.031605	300.00
300.00	200.00	.023039	300.00
300.00	400.00	.018028	300.00
300.00	600.00	.011207	300.00
300.00	800.00	.008063	300.00
400.00	-800.00	.004780	400.00
400.00	-600.00	.006156	400.00
400.00	-600.00	.006156	400.00
400.00	-400.00	.008112	400.00
400.00	-200.00	.009952	400.00
400.00	.00	.026241	400.00
400.00	200.00	.017838	400.00
400.00	400.00	.018785	400.00
400.00	600.00	.012226	400.00
400.00	800.00	.008431	400.00
500.00	-800.00	.004623	500.00
500.00	-600.00	.005829	500.00
500.00	-400.00	.007239	500.00
500.00	-200.00	.008877	500.00
500.00	.00	.021792	500.00
500.00	200.00	.014526	500.00

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE ANNUAL AVERAGE CONCENTRATION VALUES FOR INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POI

		90C 01 011E	. 114 (112 CA CONGLE) CODIC
X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
500.00	400.00	.015504	500.00
500.00	600.00	.012684	500.00
500.00	800.00	.008978	500.00
600.00	-800.00	.004424	600.00
600.00	-600.00	.005460	600.00
600.00	-400.00	.006470	600.00
600.00	-200.00	.009191	600.00
600.00	.00	.018475	600.00
600.00	200.00	.013327	600.00
600.00	400.00	.012965	600.00
600.00	600.00	.012726	600.00
600.00	800.00	.009268	600.00
700.00	-700.00	.004617	700.00
700.00	-500.00	.005398	700.00
700.00	-300.00	.006136	! 700.00
700,00	-100.00	.012475	700.00
700.00	100.00	.014116	700.00
700.00	300.00	.010481	700.00
700.00	500.00	.011119	700.00
700.00	700.00	.010780	700.00
700.00	900.00	.008193	800.00
800.00	-500.00	.004892	800.00
800.00	-300.00	.006101	800.00
800.00 800.00	-100.00	.011270	800.00
800.00	100.00 300.00	.012533 .009528	800.00 800.00
800.00	500.00	.009528	800.00
800.00	700.00	.009529	800.00
900.00	-300.00	.005029	900.00
900.00	-100.00	.010204	900.00
900.00	100.00	.011200	900.00
900.00	300.00	.008836	900.00
900.00	500.00	.008345	900.00
500.00	500.00	.000345	250.00